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VOLUME X
No. 7.

GOVERNMENT OF NORTHERN IRELAND
MINISTRY OF AGRICULTURE

MONTHLY REPORT

NOVEMBER, 1935

IMPERIAL MYCOLOGICAL
27 NOV. 1935
INSTITUTE

PRINTED UNDER THE AUTHORITY OF HIS MAJESTY'S STATIONERY OFFICE
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MINISTRY OF AGRICULTURE, NORTHERN IRELAND.

MONTHLY REPORT, NOVEMBER, 1935.

AGRICULTURAL NOTES.

With the continuance of unsettled weather, outdoor work on the farm is practically at a standstill. It is hoped that climatic conditions will soon change, so that potato digging, ploughing, and other seasonal work may be undertaken and carried out in good time. The prevailing weather is particularly unsuitable for sheep, and owners are strongly advised to run their flocks on the driest and soundest pastures available and to take all other necessary precautions against attack by liver fluke disease.

Further to the article on Pasture Improvement in last month's issue, farmers are reminded that the manuring of pasture land with phosphates can be done even during moist weather, as phosphates are not washed out of the soil. This very necessary work can, therefore, be undertaken even when weather conditions are unsuitable for work on arable land.

Two articles of special interest to live stock owners appear in this issue—one on Winter Rations for Live Stock, on page 12, and the other on " Redwater " in Cattle, on page 14.

The prices of Agricultural Produce in Northern Ireland during the quarter ended 30th September last are reviewed on page 8, whilst advance information regarding the prospects for the Christmas poultry trade, on page 10, is published a little earlier than usual this year in order that poultry producers, and the trade generally, may be in a position to form an early opinion as to the requirements for the forthcoming festive season, and act accordingly in good time.

The results of the second quarterly census of live stock, taken on 1st October last, are published on page 9.

Readers will be interested in the short account of the Minister's recent tour of the country, for the purpose of seeing the full range of the Ministry's activities, which appears on page 16.

The article on Forestry in Northern Ireland, on page 18, throws some light on a lesser-known but—none the less—important phase of the Ministry's scheme to enhance the value of the land.

Among other prominent features of this report, appears an account of Potato Marketing Developments, on page 20, and a consideration of the progress of the Milk Scheme in Northern Ireland, on page 28. The latter has special interest in view of the forthcoming elections to the Joint Milk Council, of which further notice is given on page 29.

The full results of a year's working of the Beef Subsidy Scheme are reprinted on page 34, and on page 41 appears a warning regarding ear-marked cattle which all owners of cattle should read.

The results of experiments (i) on pig feeding, page 23, and (ii) with autumn varieties of wheat, page 27, and further reference to the apple crop, 1935, on page 22, together with an account of stock seed potatoes, on page 21, also combine to cover a more comprehensive survey of agricultural matters than has hitherto appeared in these pages.

AGRICULTURAL CONDITIONS AT 1ST NOVEMBER, 1935.

The rough weather conditions prevalent in September continued throughout the past month. Much rain fell and caused flooding in low-lying areas, whilst the heavy storms which not infrequently accompanied the downpours, wrought considerable material damage. The weather in general was most unfavourable for seasonal work on the farm. With the exception of a few dry days at the beginning of the month, when outdoor work was practicable, the almost incessant rainfall held up such work as potato digging and the ploughing of stubble land. The severity of the weather reached its height at the week-end beginning the 18th of the month, when a very severe storm swept the country.

The temperatures were mostly on the mild side for the time of the year, but for the latter half of the month several sharp, cold spells, accompanied by ground frost, occurred.

Pasture lands suffered from the excessive rainfall and the frosts, particularly in low-lying areas, but in well-drained fields there is still a fair amount of keep.

Supplies of home grown and purchased foodstuffs remained available at reasonable prices.

The weather has been rather severe on outlying cattle, and, where hand-feeding has not been done, they have lost flesh. The hand-feeding of cattle was, however, carried out on a larger scale than usual, and herds generally have been maintained in a satisfactory condition. Sheep also suffered from the effects of the rough weather, but, generally, the flocks are in fairly good condition for the time of year.

The Crops.

Wheat.—Threshing operations, which as a general rule started later than usual this year, proceeded during the month, and in most instances the results have given satisfaction. Varying accounts have been received as to the yields of grain, but it is considered that in the main they will exceed the average, although below the high level recorded for the 1934 season. This estimate of comparative yields in 1934 and 1935 is supported by the results from the wheat variety tests carried out by the Agricultural Instructors, of which a summary is given on page 27 of this report. The quality of the grain is particularly good this year. Sales of wheat to authorised merchants during October were effected at prices similar to those ruling at this time last year, namely, from 5/- to 6/- per cwt.

Oats.—Small lots of oats still in the fields suffered from the rough weather conditions, but since the bulk of the crop was stored in good condition, the loss on this account will be relatively small. Threshing was retarded by the inclement weather, but this work continued on a fair scale and the results indicate that a good average yield will be recorded this season. The quality of the grain is generally very good. Supplies marketed during the month were almost equal to those in October, 1934. Prices last month were steady at round 5/3 per cwt.

Barley.—Small lots of barley were threshed during October, and whilst very high yields of grain were recorded from some crops, the results from others were less satisfactory. On the whole, however, the average yield should be somewhat similar to that recorded for the past three seasons.

Flax.—In the case of this crop, some lots remaining in the fields were damaged by the storms and rains of last month. So far scutching operations have been carried out on a moderate scale and the results have been very satisfactory, yields in most instances being higher than were obtained for last season's crop. Supplies marketed during October were smaller than for the corresponding month of 1934, and the average price last month was 8/6 per stone, as against 8/7 in October, 1934. During last month the price of flax rose steadily from 7/6 per stone for the week ended 5th October to 9/- per stone for the week ended 2nd November.

Potatoes.—The digging of this crop was carried out during the few favourable intervals last month, but general progress with this work has been considerably hampered by the bad weather, with the result that there is still a fair proportion of the crop to be dug. The late ripening of some crops was another reason why digging operations were held up this season. In some instances, however, farmers decided to dig their potatoes before full ripening, rather than incur the risk of

heavy losses from unfavourable conditions. Ground conditions during the latter half of the month were very bad. While the returns so far have been very satisfactory, both as regards the yield per acre and the quality of the tubers, it is probable that the waterlogged condition of low lying fields, which resulted from heavy rains, will eventually cause damage to a proportion of the tubers in these fields. It is also reported that the ravages of Potato Blight disease are now becoming apparent in the crops where spraying was neglected or insufficiently done.

Supplies of main crop varieties marketed for local consumption last month were heavier than for the preceding month, and the average price for the month declined from 3/0¾ per cwt. in September to 2/6¼ per cwt. in October. In comparison with October, 1934, supplies last month were lighter, and the price was 5¼d cheaper.

The prices paid by export merchants during the month under review showed a slight gradual improvement, but towards the close prices eased slightly. The following were the prices for the week ended 2nd November:—

	Bagged.	Loose.
Up-to-Date (red soil) ..	£2 10 0 to £2 15 0	£2 0 0 to £2 10 0
Up-to-Date (grey soil) ..	£2 5 0 to £2 10 0	£2 0 0
Arran Consul ..	£2 5 0 to £2 10 0	£2 0 0 to £2 5 0
Arran Victory ..	£2 0 0 to £2 7 6	£1 15 0 to £2 0 0
Kerr's Pink ..	£2 0 0 to £2 7 6	£2 0 0

MANGELS.—This crop made satisfactory progress, and good average yields are expected. Lifting commenced in some areas, but in general the weather proved too rough for carting and storing operations.

TURNIPS.—Although "Crown Rot" has been very prevalent this year, the turnip crop as a whole promises to give satisfactory results.

The yields of sound roots will, it is thought, be much higher than last year. In this connection, the results so far are less varied than a year ago.

HAY AND GRASS SEED.—The threshing of seeds hay has been almost completed. The results have been fairly good, both in regard to the yields and the quality of the seed.

Supplies of hay at markets last month were larger than in September, and the average price was little changed at 50/5 per ton for first and second year's (upland) hay, and 35/6 per ton for meadow hay. Prices in October, 1934, were, however, about 4/- per ton higher.

Supplies of grass seed marketed during October included a very small quantity of Italian seed, in comparison with that recorded for the corresponding month of last year. Perennial grass seed showed a fair decrease in quantity on last year's figure, whilst mixed grass seed was in much larger supply. The following are the monthly average prices :—

October

	1935.		1934.	
	s.	d.	s.	d.
Italian	11	4	21	11
Perennial ..	12	3½	18	9
Mixed	9	0	18	8

LIVE STOCK.

CATTLE.—The severity of the weather was reflected in the appearance of young store cattle, and generally in the case of all outlying stock which did not receive hand-feeding. Where hand-feeding was given, and there is little doubt that this was done on a large scale this year, cattle are in a satisfactory state. The health of the herds has given little cause for complaint, but " Redwater " appears to have been fairly prevalent, whilst abortion is stated to be giving trouble in some herds of dairy cattle. Apart from these exceptions, the general health of live stock is good and calving has been normal. The milk yield is reported to have decreased since last month.

Large supplies of store cattle at fairs during October experienced a quiet trade. Young stores of best quality continued to meet with a ready sale at unchanged rates, but other descriptions were hard to

cash at cheaper prices. Supplies of fat cattle at the Belfast Auction Marts were of larger dimensions, but trade was quieter and prices easier on the month. At fairs fat stock were also a slow trade at lower prices. The supply of dairy cattle at local fairs throughout the country was in excess of requirements, and recent prices were not maintained, except in the case of some very good animals.

SHEEP.—The flocks generally are in a fairly satisfactory state. On rain-sodden pastures sheep are showing the effects of the unfavourable conditions, and the common ailment, foot-rot, is prevalent. Elsewhere, however, this disease has been kept well in check, and Liver Fluke disease also has, as yet, given less trouble than usual.

From accounts to hand, it would seem that there has been a general tendency to increase the breeding stock as compared with last year, but such increase is a slight one. The prices ruling for breeding ewes were higher than a year ago. Large supplies of sheep offered at fairs last month were a moderate trade at lower prices.

PIGS.—Young pigs were in large numbers at fairs, and experienced a good, steady demand at firmer prices. Sows for breeding, of the correct type, were an improved trade, and with limited supplies available prices were higher on the month. In general, however, trade in this end was done on a larger scale and at more remunerative rates.

PORK.—The number of pigs purchased for curing during October showed a considerable increase on the September figure, and was the largest recorded since the inception of the Pigs Marketing Scheme in October, 1933.

The latest information regarding the scheme will be found on page 31.

HORSES.—The trade in horses continued steady. First class animals are reported to be scarce and in keen demand at prices up to £50 each. The range of prices for sound, young horses is from £30 to £40, whilst useful farm workers are quoted at from £20 to £30.

MILK.—The adverse weather conditions are stated to have caused an appreciable decrease in the milk yield during the month, but the falling off in supplies has not unduly affected the creameries. The prices paid by creameries last month ranged from 4d. to 4½d. per gallon for milk delivered, the separated milk being returned to the farmers. The average price paid during the month of September for all milk produced in Northern Ireland and delivered to creameries for manufacturing purposes was 4.29d. per gallon, and the Ministry has made equalisation payments at .71d. per gallon in order to bring the

average price in respect of this month to 5d. per gallon, as provided by the Milk and Milk Products Act (Northern Ireland), 1934. It should be noted that under the regulations creameries are required to distribute the equalisation payments in accordance with the butterfat content of the milk received from each supplier. Farmers should, therefore, bear in mind that the actual payments made to them, being calculated on a butterfat basis, may be at a rate per gallon which may vary below or above this average figure.

THE MARKETS DURING OCTOBER.

With the exception of pamphrey and cabbage, supplies of the principal vegetables marketed last month were larger than in September. Reduced supplies of pamphrey were marketed in Belfast during the month, and prices were steady at 2/6 per dozen. Small supplies of cabbage marketed at this centre were firm in price and averaged 2/- per dozen. Increased supplies of savoys and cauliflowers were dearer on the month. Savoys rose by 3½d to 1/5 per dozen, while cauliflowers improved in value by 7¾d to 2/4¾ per dozen. Leeks and parsley were more plentiful than in September and were 1d. and 1¾d. cheaper, respectively, at 5d. per bunch. Increased supplies of carrots, parsnips, and garden turnips were marketed during the month. Carrots and parsnips were firm in price at 7/- and 5/5 per cwt., respectively, while garden turnips were slightly cheaper at 1/8 per cwt. Farmers' print and lump butter recorded a further decrease in supply. Farmers' print butter was 1¼d. dearer at 1/1¾ per lb., and farmers' lump butter 1d. dearer at 11¼d. per lb. Supplies of hen eggs continued to decrease, and the average price was 11¾d. per lb., as compared with 9½d. per lb. in the previous month. Duck eggs were, however, more plentiful and 1/1 dearer at 11/11 per 120. In the poultry markets, hens, chickens and ducks were marketed in larger numbers than a month ago. Hens were ½d. cheaper at 1/6½ each, while chickens were firm in value at 1/11 each. Ducks were 2¼d. dearer at 1/10¾ each. Supplies of wool were smaller than in September. A slightly smaller supply of long unwashed wool was ¼d. dearer at 5d. per lb., while a greatly diminished supply of mountain unwashed wool was also ¼d. dearer at 4½d. per lb.

The Cost of Living Index Figure.

At 1st October the cost of living index figure was 45, or two points above that for the previous month. The figure at 1st October, 1934 was 43.

PRICES OF AGRICULTURAL PRODUCE.

Table showing the prices of agricultural produce in Northern Ireland during the three months ended 30th September, 1935, together with comparative figures for the same period in 1934, and the average prices ruling during the third quarter of the years 1911-13 :—

Commodity.	Quarter ended 30th September.									Percentage increase or decrease in price as compared with the corresponding period, 1911–13.	
	Northern Ireland.						Ulster.				
	1935.			1934.			1911–13.			3rd Quarter 1935.	3rd Quarter 1934.
	£	s.	d.	£	s.	d.	£	s.	d.		
Oats (White) .. .. per cwt.	0	6	2¼	0	5	6	0	7	3	— 14.7	—24.1
Potatoes .. .. „	0	3	2¼	0	3	6	0	3	5	— 6.7	+ 2.4
Hay, Clover .. .. „	0	2	7	0	2	5	0	3	5	— 24.4	—29.3
„ Meadow .. .. „	0	2	0¾	0	1	8	0	2	10	— 25.7	—41.2
Grass Seed, Italian .. „	0	10	6½	1	1	11	0	15	5	— 31.6	+42.2
„ Perennial .. „	0	11	3	0	19	2	0	11	7½	— 3.2	+64.9
„ Mixed .. „	0	9	2	0	19	0	0	11	5¼	— 19.9	+66.1
Calves (Young) .. .. per head	1	13	4	1	14	6	1	14	4	— 2.9	+ 0.5
Store Cattle, 6-12 months „	5	17	3	6	2	1	4	19	1	+ 18.3	+23.2
„ „ 1-2 years „	8	0	7	8	11	1	7	11	3	+ 6.2	+13.1
„ „ 2-3 years „	10	11	11	10	17	11	10	1	7	+ 5.2	+ 8.1
Fat Cattle, 2–3 years .. „	13	5	5	14	8	2	13	11	0	— 2.1	+ 6.3
„ „ Cows and Bulls „	9	8	9	11	4	8	12	4	7	— 22.8	— 8.1
Springers (Cows and Heifers) „	14	11	5	15	1	3	14	17	10	— 2.2	+ 1.1
Milch Cows (down calved) „	13	9	1	13	17	3	13	12	1	— 1.1	+ 1.9
Lambs (under 12 months) „	1	2	9	1	5	5	1	2	1	+ 3.0	+15.1
Store Sheep .. .. „		—			—		1	4	5	—	—
Wethers .. .. .. „	0	13	0		—			—		—	—
Breeding Ewes .. .. „	1	12	0	1	14	0		—		—	—
Fat Sheep, 1-2 years .. „	1	2	6	0	19	0	2	0	6	— 44.4	—53.1
„ over 2 years „	1	9	1	1	11	2	2	0	3	— 27.7	—22.6
Sows for breeding .. „	6	19	2	6	18	7	5	15	9	+ 20.2	+19.7
Young pigs, 8-10 weeks old „	1	9	7	1	7	9	1	8	8	+ 3.2	— 3.2
Pork .. .. .. per cwt.	2	18	0	2	15	6	2	17	11	+ 0.1	— 4.2
Butter, Farmers' .. „	4	13	4	4	4	2	4	13	8	— 0.4	—10.2
Hen Eggs .. .. per lb.	0	0	8	0	0	7½	†0	9	4	—	—

† All Ireland price per 120.

The foregoing table shows that agricultural commodity prices for the third quarter of this year, ended 30th September, were mostly lower than for the corresponding quarter of 1934. Of the crop prices listed, white oats, clover and meadow hay were dearer than a year ago, but potatoes and grass seeds were selling at lower rates. With the exception of grass seeds, price differences between last year and this were very slight. The opening of the grass seed markets this season was certainly inauspicious, and prices ruled considerably lower than the satisfactory rates recorded for the corresponding period of 1934.

During October, however, prices of grass seeds have improved. In the case of all these crops prices last quarter were below those ruling at the third quarter of the pre-war period.

It is disappointing to record that with few exceptions live stock prices during July, August and September were cheaper than in the same months of last year. Young calves showed a very slight drop in values and finished a shade below the pre-war quotation. Store cattle generally declined in value, but prices in all instances remained above the pre-war averages shown in the table. Fat stock prices also were cheaper on the year and price levels for last quarter proved below the 1911/1913 levels. Since there was no beef subsidy in existence during the third quarter of 1934, the addition of 5/- per live cwt. to prices of certified cattle last quarter would bring the average price of fat cattle, 2-3 years, to well above the level shown for last year and the pre-war quotation. Fat cows and bulls showed a marked drop in value and were considerably cheaper than for the years 1911/1913. Dairy cattle prices also formed part of the general downward movement in prices, and were a little cheaper last quarter than before the war.

In the sheep section, young fat sheep alone showed a rise on the price recorded for 1934. In comparison with pre-war rates, however, lambs only were a little higher last quarter, fat sheep of both classes being appreciably cheaper.

The prices of pork and of live pigs were higher than in 1934, and, compared with the pre-war quarter, pork reached parity, young pigs moved above the corresponding figure, and sows for breeding were appreciably dearer.

Farmers' butter showed a fair increase in price since the third quarter of 1934, and another satisfactory feature was the rise in the price of hen eggs last quarter. Compared with pre-war prices, farmers' butter was almost maintained at that level, whilst it is reckoned hen eggs were higher.

LIVE STOCK CENSUS, OCTOBER, 1935.

The second Quarterly Census of live stock was taken at the 1st October last. The census was based on returns received direct from approximately 10,000 farmers, that is just over ten per cent. of the total number of farmers in Northern Ireland. Forms were sent to farmers whose names were taken from the complete enumeration made by members of the Royal Ulster Constabulary at the 1st June last, the method being to address a form to each fifth name appearing in the enumeration books. This meant that the names of farmers were taken without any pre-selection, and, accordingly, the returns were based on a random selection. In all, 18,000 forms were despatched

to farmers. The number of forms returned was very satisfactory, being over 50 per cent. of those despatched.

The results of the estimate based on these returns are given in the table below, together with corresponding figures for the 1st April last (when a similar estimate was made), and the results of the complete enumeration at the 1st June last.

	1st April, 1935.	1st June, 1935.	1st October, 1935.	% Change as compared with 1st April, 1935.	% Change as compared with 1st June, 1935.
	No.	No.	No.		
Milch Cows ..	245,000*	252,297	253,000*	+ 3.3	+ 0.3
Heifers in calf ..	45,000	27,339	35,000	—22.2	+28.0
Other Cattle ..	470,000	519,615	514,000	+ 9.4	— 1.1
Total Cattle ..	760,000	799,251	802,000	+ 5.5	+ 0.3
Ewes	360,000	367,030	381,000	+ 5.8	+ 3.8
Other Sheep ..	382,000	451,274	215,000	—43.7	—52.4
Total Sheep ..	742,000	818,304	596,000	—19.7	—27.2
Sows	45,000	47,436	51,000	+13.3	+7.5
Other Pigs ..	385,000	410,442	461,000	+19.7	+12.3
Total Pigs ..	430,000	457,878	512,000	+19.1	+11.8

* Including heifers in milk.

Broadly speaking, the numbers of cattle and pigs at 1st October are comparable with the figures for the 1st April and 1st June, but the numbers of sheep at the 1st October and at the 1st April are not strictly comparable with those at 1st June.

ADVANCE INFORMATION REGARDING CHRISTMAS POULTRY TRADE PROSPECTS.

The preliminary returns of agricultural statistics compiled at the 1st June revealed that in Northern Ireland the poultry population decreased slightly this year from the peak figure recorded in 1934. The total number of poultry last year was 10,291,910, and this year it has dropped to 10,083,609, or by 2%. The decline in numbers was chiefly accounted for by a reduction of 10.3% in turkeys, which numbered 453,868 last year and 407,175 at the 1st June last. Geese, ducks, and ordinary fowl decreased at a uniform rate of about 1.6%. In the other home countries the position is much the same, the total poultry population in each instance showing a slight decrease. In England and Wales turkeys decreased by 12.8%, from 788,000 in 1934 to 687,000 this year, and ordinary fowl by 5.2%, whilst changes in the number

of geese and ducks were almost negligible. Again, in Scotland, there were appreciable decreases in the numbers of turkeys and geese, the reduction being most marked in the case of the former class of poultry, which numbered 129,200 in 1934 and only 85,000 this year. So far the information from the Irish Free State indicates a slight decrease in the total population of poultry since last year. Basing an estimate on the supplies that will be available for the Christmas trade on these figures, it would seem that the English markets will not be stocked with supplies of turkeys and geese from the home countries to the same extent as in recent years. Little information is as yet available as to what supplies will be forthcoming from foreign countries, and in regard to these the effect of the imposition of an increased import duty of 3d. per lb. on dead turkeys as from the 2nd May last remains to be seen this season. The international political situation may also have some effect on supplies. It should also be noted that a reduced import duty of 5d. per lb. on dead turkeys from the Irish Free State is now in existence, and part of this duty is offset by a bounty. Since the imports of poultry from foreign countries are always large, notwithstanding the tariff restrictions that have been imposed, it is fairly safe to assume that there will not be any appreciable change in the volume of trade from this source. In so far, however, as supplies of Northern Ireland poultry are concerned, it seems likely that with competition being limited on account of a general reduction in the numbers of British birds, the position will have improved to a slight extent. Despite the reduction in the number of Northern Ireland turkeys shown at the 1st June last, recent reports received by the Ministry suggest that supplies will be of average dimensions. The weather conditions during the spring and summer months were very favourable for the development of the birds, and despite the very damp weather of autumn which prevailed recently, the flocks generally are well up to the average as regards condition and quality. The general absence of severe frosts has been favourable to the birds. Feeding stuffs have been available at reasonable prices, and this has tended to encourage breeders to feed the birds well.

Notwithstanding the position in regard to supplies for the English markets as it now exists, poultry producers in Northern Ireland are strongly advised not to relax their efforts to obtain a greater share of the markets for their produce. They should bear in mind that foreign producers have improved the quality of their produce to such an extent that supplies reach the London market in first-class condition and command top prices. If, therefore, home producers do not reach at least the same high standards as regards quality and marketing methods, the purchasers will not be prepared to pay top prices for the birds on offer. It is imperative, therefore, that the birds should be fattened, selected and marketed in the best possible manner so as to command a full share of the market, which holds out more promise of remunerative returns than in past years.

The development in the pork industry is another factor that will have to be considered in regard to supplies of food for the Christmas season.

WINTER RATIONS FOR LIVE STOCK.

As the winter feeding of stock has now commenced, the compounding of suitable and economical rations for use during the winter feeding period requires careful consideration at this time.

The purchase of feeding stuffs constitutes the greatest item of expenditure in the winter feeding of live stock, but as there is a variety of foods on the market which can be divided into groups according to their richness in either protein or starchy material, it is possible to make a selection of those foods within a group which offer best value for money and so effect economies in expenditure.

When the rations are made up on the farm, the purchase of foods rich in protein is generally necessary in order that a balanced ration may be used. A ready means of ascertaining which food supplies protein at the cheapest rate is to divide the percentage of protein in the food into the price per ton at which it is offered. This gives the cost of the unit of protein in the food. On page 55 of this report, the common feeding stuffs used on the farm are divided into two main groups according to their richness in either protein or starchy material, and the prices of protein and of starch equivalent, as determined from the average prices of these foods, are given. The food, therefore, in which the price of the unit of protein, in the case of the group of protein-rich foods, is lowest offers best value for money and should be chosen, provided it is suitable for the type of stock to which it is to be fed. Similarly, in the case of starchy feeding stuffs, the food in which the price of the unit of starch equivalent is cheapest offers best value for money.

It will be noted from the Table that decorticated earthnut cake supplies protein at the cheapest rate in the group of protein-rich foods. This cake is suitable for inclusion in rations for dairy cows, fattening cattle and young growing stock. It may be mentioned, however, that where home butter-making is carried out, it may be desirable to use decorticated cotton cake in meal mixtures for milk cows, even although it is slightly more expensive, as it gives a deeper coloured and firmer butter-fat.

Of the prices of feeding stuffs given in the Table, the following are examples of economical and satisfactory meal mixtures for feeding to different classes of stock during the winter period :—

1. Dairy Cows.
   3 parts by weight of crushed oats.
   2 „ „ „ „ maize meal.

1 part by weight of red bran.
2 parts ,, ,, ,, decorticated earthnut cake.
(or $2\frac{1}{2}$,, ,, ,, ,, decorticated cotton cake).

2. Fattening Cattle.
2 part(s) by weight of crushed oats.
2 ,, ,, ,, ,, maize meal.
1 ,, ,, ,, ,, decorticated earthnut cake.

3. Young Growing Cattle.
2 part(s) by weight of crushed oats.
1 ,, ,, ,, ,, maize meal.
1 ,, ,, ,, ,, decorticated earthnut cake.

4. Fattening Pigs.
3 part(s) by weight of maize meal.
3 ,, ,, ,, ,, barley meal.
2 ,, ,, ,, ,, brown pollards.
1 ,, ,, ,, ,, red bran.
With 2 or 3 pints separated milk or buttermilk per head daily. If milk is not available, 1 part of extracted soya bean meal should be added to the mixture given above and 2 lb. of a mineral mixture to each cwt. of meal mixture.

5. Sows with Litters.
3 part(s) by weight of maize meal.
1 ,, ,, ,, ,, flaked maize.
$2\frac{1}{2}$,, ,, ,, ,, red bran.
3 ,, ,, ,, ,, brown pollards.
$1\frac{1}{2}$,, ,, ,, ,, extracted soya bean meal.
3 lb. mineral mixture to each cwt. of meal mixture. If separated milk or buttermilk is available, the soya bean meal may be omitted.

6. In-pig Sows.
4 parts by weight of maize meal.
4 ,, ,, ,, ,, brown pollards.
2 ,, ,, ,, ,, red bran.

The addition of mineral mixtures to the above rations is essential except where milk is being fed in pig mixtures. A suitable mineral mixture for dairy cows is equal parts by weight ground limestone or chalk, steamed bone flour and common salt, fed at the rate of 3 lb. per cwt. of meal mixture. For other cattle and for pigs the mineral mixture recommended is 3 parts by weight ground limestone or chalk and 1 part by weight common salt, fed at the rate of 2 lb. per cwt. of meal mixture in the case of cattle and fattening pigs, and 3 lb. per cwt. of meals in the case of sows suckling pigs.

It is desirable to add a small allowance of linseed cake to the ration given above for fattening cattle during the last month or six weeks of the fattening period. Linseed cake aids in producing a good finish in the animals and for this reason its use is desirable.

It will be noted that red bran and brown pollards are specified in the rations. Usually red wheat offals are offered at cheaper rates than the white grades, and, provided the fibre content of the former is not excessively high, there is not much difference in feeding value, and, accordingly, it is more economic to use the cheaper grades.

" REDWATER " IN CATTLE.

As many inquiries have been received regarding the nature of this disease and its prevention and treatment, it is hoped that the following note will be of interest and assistance to readers.

" Redwater " disease in cattle is caused by a small parasite, known as a piroplasm, which invades the red blood corpuscles, setting free the red colouring matter. This colouring matter is filtered off in the urine and gives rise to the characteristic symptom of redwater by which the disease is known. The depth of colouring of the urine is an indication of the number of cells destroyed and of the severity of the attack.

The colouring of the urine, which varies from light-red to porter-coloured or even approaching black, is the most characteristic symptom of the disease, but attacked animals show, in addition, the usual signs of sickness. Severe constipation is by no means an uncommon feature, and, as the disease progresses, the cattle waste very rapidly and death may ensue unless the disease is checked. It should be noted, however, that cattle may recover from an attack, or the attack may be so mild as to escape observation, but such animals may act as " carriers " of the disease and cause its transmission to other cattle, particularly if such " carriers " have been removed to a district where outbreaks of redwater have not previously occurred.

It is now definitely known that the redwater parasite is carried and transmitted from animal to animal by the common cattle tick. The tick may transmit the disease directly from affected animals to other cattle by blood sucking, or it may transmit the disease to its larvae, which, in turn, attack and infect other cattle. Accordingly, the most satisfactory method of preventing outbreaks is to direct attacks against the ticks so that as many of them as possible may be destroyed. An interesting feature of " redwater " disease is that it is usually associated with old, rough grazing which has not been broken up for a number of years. Such land affords shelter for the breeding and multiplication

of the ticks, and, should the redwater parasite be present, outbreaks of the disease in cattle on such pastures are likely to occur. On the other hand, land which is regularly ploughed and cropped, and on which no shelter is available for the ticks, is usually free from the disease. Accordingly, land on which outbreaks of " redwater " have occurred should be broken up if at all possible. Where, however, ploughing cannot be conveniently carried out, the fields should either be cut for hay or an attempt made to clear the land of any rough vegetation which may be growing on it. Patches of old coarse grass should be mown off, and bushes, whins, overgrown fences and ditches cleared. After the hay has been removed or the coarse grazing cut off, a dressing of copper sulphate (bluestone) and sand should be given to kill the ticks. An application of ¼ cwt. copper sulphate and 2 cwt. sand per statute acre is generally recommended for this purpose. Provided the dressing is evenly distributed, there is no risk of poisoning stock grazing on the land afterwards.

This dressing should be followed by an application of a phosphatic manure to promote the growth of good grass and to encourage stock to graze more closely. For autumn or winter application, a dressing of high grade basic slag, Gafsa rock phosphate, or Semsol at the rate of from 6 to 8 cwt. per statute acre is recommended. If the dressing is to be given during the spring or summer months, superphosphate at the rate of from 3 to 4 cwt. per statute acre should be applied. In addition to the application of a phosphatic manure, a dressing of 1½ cwt. potash salts and 1 cwt. agricultural salt per acre should be given.

The grazing of horses and sheep on land where " redwater " disease is prevalent offers an alternative method of controlling the disease, as these stock are immune from attacks. It has been found that if cattle are kept off infected land for about one year, and if the land is kept closely grazed with horses and sheep during that time, cattle may be grazed thereon afterwards without much risk of attacks occurring. A further advantage in grazing sheep on infected land is that when dipping is carried out, the ticks which have attached themselves to the sheep are destroyed, so lessening the risk of cattle becoming infected.

Cattle grazing on land subject to " redwater " outbreaks should be examined from time to time for the presence of ticks. These pests, in addition to transmitting the disease, are a source of worry to the beasts and hinder good thriving if present in large numbers. They are most usually found about the lower parts of the beasts, particularly inside the flanks. A convenient method of destroying ticks on cattle is to dress the infested parts of the animals with the " Polvo " soap wash, as recommended for the destruction of ox-warble fly maggots in cattle. The wash is made up by dissolving 1 lb. " Polvo " powder and ¼ lb. soft soap in a gallon of water. Further particulars regarding the preparation of the wash are given in Leaflet No. 64. " Polvo " can be obtained from most chemists.

Treatment of cattle affected with " redwater " disease is best carried out by a Veterinary Surgeon, and, owing to the serious complications which may arise if treatment is delayed, the services of a Veterinary Surgeon should be obtained immediately an animal is suspected of being attacked by the disease. It should be remembered that the blood, on which life depends, is being practically destroyed by the parasites introduced by the ticks. Therefore it is not sufficient to depend, as so many do, upon violent and repeated doses of purgative medicines, which in themselves are often the means of causing the death of the affected animal. Such treatment is directed against the symptoms and often misses the true seat of the disease, which is the blood. Affected animals should be housed and subjected to as little abuse as possible, on account of the risk of sudden death from failure of the heart's action.

It may be mentioned that the most recent treatment for " redwater " is the administration of a prepared injection, supplies of which most veterinary surgeons have at hand. The injection of animals has given very satisfactory results in cases where the treatment was carried out in the early stages of the disease. It is important, therefore, to secure the services of a Veterinary Surgeon as early as possible in the attack.

AN AGRICULTURAL JOURNEY.

A few weeks ago the Minister of Agriculture (Sir Basil S. Brooke, Bart.) made an extensive tour of the Six Counties with the object of seeing the work of the Agricultural Instructors and Overseers in each county. The Minister met the County Organisers and most of the Instructors and Overseers, and discussed the various aspects of their activities.

Visits were paid to a large number of Grass Improvement Demonstration plots which are in progress in each county. The Ministry's intensive Pasture Improvement Scheme has now been in operation for a period of ten years. The results, on the whole, are outstanding, and the contrast with earlier conditions is most noticeable in the poor districts where there are large areas of poor quality pasture capable of improvement. Not only is there a marked improvement in the quality of the herbage on the Manurial and Good Seed Mixture plots, but a gratifying feature is that in many of the districts the farmers are taking advantage of the lessons demonstrated and are now using the manures and seeds recommended for pasture improvement.

In connection with another phase of this work, a series of plots is in operation with a view to determining the simplest, cheapest and most efficacious method of checking the growth of rushes. Since the war period large areas of land which are principally devoted to

permanent pasture have become covered with rushes, to the detriment of pasture grazing capacity. Various materials have been tried, and of these apparently the simplest and most efficacious method is to cut the rushes twice in the year, spring and summer, and apply phosphatic manure to encourage growth of clover and grass.

During the course of the tour a number of farms were visited where Pig Recording Demonstrations were in progress. Regular weighings were being taken and weights recorded. The outstanding features in connection with this activity were the keen interest that was being evinced in the figures obtained, the large increase in the pig population and the very marked change in the type of pig being reared and fattened. Since the inception of the Pigs Marketing Scheme there has been a very large increase in the proportion of the Large White York breed, due to the fact that for purposes of the Wiltshire cure and the live export trade the demand is for this type of pig.

In the mountainous areas it was observed that widespread advantage had been taken of the Ministry's Loan Scheme for the erection of sheep fencing to enclose areas hitherto used for common grazing. The enclosure of these areas is particularly desirable in that it results in more attention being given to the improvement of the flocks.

In some districts special attention has been given to the drainage and reclamation of land under the Ministry's scheme for land improvement, with excellent results. Under this scheme, farmers are enabled to reclaim waste land, to improve their holdings by drainage, stubbing whins, removing rocks from tillage fields, levelling embankments, making and repairing farm roads and effecting other works of a like nature. The following is a brief analysis showing the extent of the work carried out since the inception of the scheme in 1929 :—

Description of Work.	Area Improved.
	Acres.
Field drains	6,815
Hill or open drains	5,608
Watercourses and ditches	8,380
Reclamation work	450
Total	21,253

The operation of the scheme not only adds materially to the basic wealth of the community, but also alleviates distress arising through unemployment. The number of unemployed workmen who have been engaged in work of this nature to date is 2,876.

The Minister also visited centres of operation in connection with the Ministry's Forestry Scheme. This scheme, inaugurated eight years ago for the laudable object of augmenting the timber supplies of the country, which had been sadly depleted during the war years, is dealt with separately in a special article appearing in this issue.

Sir Basil was very satisfied with the progress that is being made in this connection, and with the very valuable work done and the large amount of information available for the benefit of farmers as the result of the experimental and demonstration schemes. It is felt, however, that many farmers are not fully aware of the work that is being done and of the full advantages to be derived therefrom. One of the objects which the Minister had in view in making the tour was to consult with the County Agricultural staff and carry out an inspection with a view to ascertaining the best methods of stimulating the interest of the farming community in this work, and, in particular, the application of the results obtained to everyday farming practice.

FORESTRY IN NORTHERN IRELAND.

The total area of Northern Ireland is approximately 3,351,970 acres or about 5,250 square miles, and only about 51,000 acres are afforested, 11,000 acres being State forest and 40,000 acres being privately owned. This represents 1.5% of the total area, and is the smallest proportion in Europe with the exception of Iceland. Forestry is, however, of the greatest importance to the nation from several points of view. In time of peace timber is essential for the building of dwelling houses and other structures, for furniture making, box making, paper making and numerous other things. Besides, trees are often necessary to a farmer for shelter purposes, and omitting the purely utilitarian aspect, the beauty of a countryside which is studded with trees is an asset of no inconsiderable value to a community. In time of war timber assumes an added importance, as it provides materials for the construction of bridges, huts, rolling stock and many of the adjuncts to an army in the field. Dependence upon foreign supplies of timber in time of war is out of the question under modern conditions, and in any event its importation from abroad would absorb shipping that could otherwise be released for the conveyance of food supplies, troops, etc. Hence, an increase in the supply of home grown timber for use in times of both peace and war is a national necessity. As the investment of capital and labour in an afforestation scheme does not produce any return (except a very small one from the sale of thinnings) for a period of at least 40 years, the growing of timber, unless on a small scale, is not of a nature to appeal to the land owner who expects a profit from his expenditure within his lifetime. The same consideration holds good

in the case of a combination or company. Hence, the augmentation of the timber supplies of the country is a duty which must be undertaken by the State.

When in 1922 the Ministry was placed in charge of forestry operations in Northern Ireland, there were only four centres, viz., Ballykelly, County Londonderry, 254 acres ; Castlecaldwell, County Fermanagh, 303 acres ; Knockmany, County Tyrone, 468 acres, and Baronscourt, County Tyrone, 2,820 acres—a total of 3,854 acres. To-day there are upwards of 17,000 acres under the control of the Ministry, of which a total area of over 10,000 acres is under young wood and about 700 acres under old wood, representing upwards of 20 million trees. The Ministry's programme aims at the planting of 1,000 acres each year for a number of years to come, the ultimate object being the afforestation by the State of about 50,000 acres. To enable this to be done, suitable land has been acquired by purchase or on long lease where it was offered in blocks large enough to make forestry operations economic. The lands thus acquired are mountainous and had in the main been used for grazing purposes. It was usually possible to secure small areas of better class land with the large blocks, to be used as nurseries for raising plants from seed.

Practically all of the trees which have been planted by the Ministry are coniferous or soft wood, chiefly Norway and Sitka Spruce, Japanese Larch and Scots and Corsican Pine. The land in Northern Ireland which has become available for afforestation purposes is much more suitable for the growing of soft wood trees than hard woods. Soft woods mature earlier, and the returns from them are, therefore, realised more quickly. Moreover, certain species of soft woods are in great demand for building purposes, box making, pit props, etc., and, besides, wood pulp, which has so many and varied uses, such as the making of paper and artificial silk, and the importance of which need not be stressed, is obtainable from them.

Mention has been made above of the fact that about 40,000 acres of woods are privately owned. The encouragement of afforestation by private owners in Northern Ireland is justifiable because there exists in this country a very considerable area of high quality forest or forestable land made up of small, scattered areas which, although too small for inclusion in the State scheme, could be economically planted and worked by private owners, to whom, under present conditions, they yield little if any profit. To stimulate the planting of such areas, the Government have introduced a system of grants payable in respect of clearing and planting carried out by private land owners who already have in their possession a sufficient acreage of woods to make the utilisation of further areas for afforestation a commercial proposition.

Finally, farmers and small land owners are invited and encouraged to participate in the Ministry's scheme, under which trees grown in

the Ministry's nurseries are supplied at reduced prices. This scheme was started in the 1927-28 season, and since that time upwards of 900,000 trees have been supplied to about 560 applicants.

POTATO MARKETING DEVELOPMENTS.

The British Potato Marketing Board has in recent months been making strong efforts to secure some stabilization of potato prices. It is, of course, unnecessary to point out to any person acquainted with the history of the potato trade that it has been chequered by price fluctuations which have in some years proved disastrous to producers and merchants alike. The aim of the Potato Marketing Board has been to evolve some system under which such violent price fluctuations would be avoided and under which reasonable prices to producers and reasonable profits to the trade would be assured.

An important part of the Board's plan in this connection is the formation across the Channel of local committees of registered potato merchants whose main function is the fixing of minimum prices for potatoes as between wholesalers and retailers in the particular areas in which the individual committees operate. It is, of course, obvious that these developments in Great Britain must have a very important effect on the Northern Ireland potato industry, and it is essential that our merchants should co-operate in these developments.

In August last representatives of the Potato Marketing Board visited Northern Ireland and conferred with the Ministry's Potato Advisory Committee with the object of discussing the possibility of securing the co-operation to which reference has been made, and, arising from that visit and subsequent careful consideration of the problem, not only by the Ministry and by its Advisory Committee, on which producers are fully represented, but also by the Northern Ireland exporting merchants, it was decided that as a preliminary step the Ministry should call a meeting of all licensed merchants so that this most important matter could be fully discussed. The meeting was, accordingly, held in Belfast on the 18th October, and a very full attendance of licensed merchants was secured. The meeting proved to be of a most helpful character, and it was unanimously agreed that a merchants' association, to be known as the North of Ireland Potato Marketing Association, should be formed and that all licensed merchants should be invited to become members of this Association and to abide loyally by its rules. It was also agreed that the new association should have an Executive Committee, on which both the Farmers' Union and the Ministry, as well as the merchants, should be represented, and that Committee has now commenced to function. It consists of the following members :—

James Evans, Esq., c/o Messrs. Cullen, Allen and Company, 7-9 Victoria Street, Belfast. Col. R. S. Knox, D.S.O., Melbourne House, Victoria Terrace, Portstewart William Stewart, Esq., c/o Messrs. Stewart and Orr, Oxford Street, Belfast. W. G. Hamilton, Esq., 70 May Street, Belfast. Alexander Oakey, Esq., c/o Messrs. Doherty & Company, Potato Merchants, Limavady. James Mitchell, Esq., c/o Messrs. R. H. Mitchell and Company, Potato Merchants, Desertmartin. James Elliott, Esq., c/o Messrs. James Elliott and Company, Potato Merchants, Portaferry. Ernest Cooper, Esq., c/o Messrs. Robert Cooper and Sons, Potato Merchants, Newry.	Representing the exporting merchants and nominated for the first year by the Ministry of Agriculture at the request of the merchants.
J. A. Nesbitt, Esq., Woodgrange Cottage, Ballydugan, Downpatrick. Wm. Pinkerton, Esq., Dunaverney, Ballymoney.	Nominated by the Ulster Farmers' Union.

Mr. W. J. Megaw, O.B.E., nominated by the Ministry of Agriculture.

STOCK SEED POTATOES.

It is now generally recognised that in stocks of potatoes freedom from the virus diseases of Mosaic and Leaf Roll is of even greater importance than purity. In recent years the Ministry has, therefore, devoted considerable attention to the encouragement of the production of healthy stocks of potatoes. The method pursued in establishing an improved stock was to select single potato plants which showed no visible symptoms of Mosaic or Leaf Roll. From each selected plant separate units were propagated in a turnip crop. In the first two years of propagation an entire unit was discarded in which any symptoms of unhealthiness were apparent, even if such symptoms were limited to an individual plant in that unit. In subsequent years the units which were retained were grown in isolation from ordinary stocks of potatoes and at an early period in each season they were carefully rogued and any plant that appeared to be unhealthy was removed. By this method the Ministry built up small lots of healthy stocks for distribution to farmers who undertook to adopt the precautions necessary for maintaining their health.

In most districts of the country it is possible for a lengthened period of years to prevent a healthy stock of potatoes from deteriorating, when the precautions regarding isolation and roguing as referred to are

carefully followed. On the other hand, when these precautions are neglected, a healthy stock will become infected with Mosaic or Leaf Roll and will deteriorate more or less rapidly according to the environment.

For the encouragement of the production of stocks of potatoes of a specially high standard of healthiness, the Ministry during the past three years has listed separately under the heading " Stock Seed " any crops of potatoes which on inspection were found (1) to be practically free from visible symptoms of Mosaic or Leaf Roll ; (2) to be efficiently isolated from unhealthy potato crops ; (3) to be practically of a purity of 100 per cent., and (4) to be free from diseases of any kind which would seriously impair the value of the produce for seed purposes.

FARMERS WHO DESIRE TO GROW CROPS OF POTATOES OF THE HIGHEST POSSIBLE STANDARD OF HEALTH AND PURITY ARE STRONGLY RECOMMENDED TO PROCURE SEED WHICH IS THE PRODUCE OF CROPS RECOMMENDED FOR STOCK SEED PURPOSES.

Particulars of crops which have qualified for Stock Seed are given in the lists containing the names and addresses of growers of selected stocks and of those having varieties certified pure by the Ministry. Copies of these lists can be obtained free on request.

THE APPLE CROP, 1935.

It is now a well-known fact that, principally as a result of weather conditions, the apple crop in England this season has been poor, with the result that, as was foreshadowed in a previous Monthly Report, the demand for apples from Northern Ireland has shown a very considerable increase over that experienced last season. It so happened that while the Northern Ireland apple crop this season was not so great as last year's, it has, nevertheless, proved to be slightly above average. As a result of the interest taken by apple growers in the educational work of the Ministry and the County Committees of Agriculture, in the direction of cultivation and spraying of trees, there were very considerable quantities of sound apples, practically free from blemish, available for shipment to cross-Channel markets, to meet the deficiency caused by the relative failure of the British crop. It is gratifying to be able to state that from the opening of the shipping season to the present date shipments of apples from Northern Ireland have already exceeded the total quantity shipped during the period from September, 1934, to April, 1935. The prices which are being obtained are showing an encouraging return to Northern Ireland apple growers.

The Ministry's Rules, made under the Marketing of Fruit Act (Northern Ireland), 1931, with regard to the grading and packing of

apples for shipment, have now been in operation for four years and are well known, and are generally being loyally observed by growers and merchants alike.

It is hoped that one important result of the large shipments of graded fruit which have been made this year will be that Northern Ireland fruit will gain a footing and reputation in parts of England to which it would not have penetrated in a year when British apple growers had a large crop to dispose of, and that even in a year in which the British apple crop is normal the demand for carefully graded apples from this country will be greater than was formerly the case. It is interesting to notice that there are now 65 licensed shippers of graded apples from Northern Ireland, while 208 persons hold permits to enable them to ship graded apples of their own growing. These figures are higher than at any time since the passing of the Marketing of Fruit Act.

RESULTS OF SOME COUNTY PIG FEEDING EXPERIMENTS.

The use of separated milk in rations for pigs provides one of the most remunerative methods of disposing of this by-product of the dairying industry, as separated milk possesses a high feeding value; besides, when milk is used, there is no necessity to spend money on comparatively expensive milk substitutes. If, therefore, separated milk is available, the problem of making cheap and efficient balanced rations for pigs is one which is easily solved, but where milk is not available the pig feeder is confronted with the problem of finding a suitable substitute. This problem arises on the milk producing farm principally during the winter, when supplies of milk are low, and on other farms throughout the entire year, as it is impossible to obtain a satisfactory thrive in pigs unless either milk or a milk substitute is fed. The results of investigations of the efficiency of milk substitutes are, therefore, of the utmost importance to every pig feeder, and it is hoped that this review of the results of some experiments carried out by the Agricultural Instructors will be of interest and value, particularly as the main object of the experiments was to obtain information regarding the usefulness of certain foods as substitutes for separated milk.

In these experiments, which were commenced in 1931, the first step was to demonstrate the fact that certain protein-rich foods, when added to the basal ration in suitable proportion, were efficient substitutes for separated milk. Accordingly, in the case of the initial tests, one lot of pigs received three pints separated milk per head daily in addition to the basal meal mixture, a second lot received the same basal ration as was fed to the separated milk lot, plus 10 per cent.

extracted soya bean meal and 2 lb. mineral mixture per cwt. mea mixture, instead of the separated milk, while the third lot received th same basal ration, but with 10 per cent. high grade meat meal as th milk substitute.

In all the experiments every effort was made to eliminate factors which might mask the results of the different systems of feeding, and accordingly, the pigs in all three lots were as evenly balanced as possible as regards initial weight and age, sex, and thriftiness as judged by appearance. The housing and management of all three lots were also similar.

The average results from 13 tests of the nature indicated above are set out in the following table :—

Lot	Rations fed.	Total No. of pigs fed.	Average daily live weight gain per pig.	Average quantity of meals § required to produce 1 lb. live weight increase.	Average cost of food to produce 1 cwt. live weight increase.*
			lb.	lb.	£ s. d.
1	Basal ration plus separated milk ..	53	1.5	4.5	1 19 1
2	Basal ration plus 10% soya bean meal, plus 2 lb. mineral mixture per cwt. meal mixture ..	53	1.5	4.2	1 19 0
3	Basal ration plus 10% high grade meat meal	53	1.5	4.2	1 18 8

§ 6lb. milk=1 lb. meal.
* These costs are based on the prices ruling for feeding stuffs in 1931 and 1932.

The mineral mixture consisted of 2 parts ground limestone, 2 parts steamed bone flour, and 1 part common salt, while the basal ration consisted of a mixture of maize meal, pollard, ground oats and bran.

These results show that both milk substitutes were quite satisfactory inasmuch as they produced as good average daily live weight increases as the separated milk while actually reducing slightly the cost of doing so.

The results leave little room for doubt as to the efficiency of either soya bean meal plus minerals, or high grade meat meal as substitutes for separated milk, and supply an answer to the question " What shall I use in place of separated milk ?" It should be noted that the costs as shown have been calculated on the prices ruling for feeding stuffs at the time the tests were carried out and that the separated milk was valued at 1½d. per gallon.

Having demonstrated the efficiency of these two milk substitutes, attention was next given to the question of comparing their efficiency when used individually and mixed together in the basal ration. For this purpose a second series of tests was arranged, having three lots of pigs in each test. The basal ration for all three lots was composed of a mixture of 3½ parts maize meal, 2 parts tapioca root flour, 3 parts red pollard, and ½ part red bran. The basal ration was supplemented with 10 per cent. extracted soya bean meal, plus 2 lb. mineral mixture per cwt. meal mixture for lot 1, with 10 per cent. high grade meat meal for lot 2, and with 10 per cent. of a mixture of equal parts of extracted soya bean meal and meat meal plus 1 lb. mineral mixture to 1 cwt. meal mixture for lot 3. The mineral mixture was 2 parts ground limestone and 1 part common salt.

These experiments were carried out on five different farms, and the average results are given in the following table :—

Lot	Rations fed.	Total No. of pigs fed.	Average daily live weight gain per pig.	Average quantity of meals required to produce 1 lb. live weight increase.	Average cost of food required to produce 1 cwt. live weight increase.
			lb.	lb.	£ s. d.
1	Basal ration plus 10% soya bean meal plus 2 lb. mineral mixture per cwt. meal mixture	20	1.5	4.0	1 5 5
2	Basal ration plus 10% high grade meat meal	20	1.4	3.9	1 7 1
3	Basal ration plus 5% soya bean meal and 5% meat meal, plus 1 lb. mineral mixture to 1 cwt. meal mixture ..	21	1.4	4.0	1 6 6

These results indicate that there was little difference in the efficiency of the three milk substitutes and that there was no apparent advantage gained from mixing the soya bean meal and meat meal, as was done for lot 3. On the average, the soya bean meal was slightly more efficient than the meat meal from the point of view of producing daily live weight gain, and, being obtainable at a cheaper price per ton than meat meal, it has produced live weight gains at a cheaper cost than meat meal.

In the experiments referred to above, each of the milk substitutes was added to the meal mixture in the proportion of 10 per cent. It has been suggested, however, that that proportion may not necessarily

be the ideal one for producing the most economical live weight gain, and this aspect of the problem is being investigated by further experiments which have been arranged.

In this connection some information has been obtained from the results of another series of experiments in which, although the primary object was to compare tapioca root flour with barley meal in meal mixtures for pigs, an additional lot was included in which the pigs were fed on a ration which contained only 5 per cent. of the milk substitute throughout the fattening period.

The average results from these experiments are tabulated in the following table :—

Lot	Rations fed.	Total No. of pigs fed.	Average daily live weight gain per pig.	Average quantity of meals required to produce 1 lb. live weight increase.	Average cost of food required to produce 1 cwt. live weight increase.
			lb.	lb.	£ s. d.
1	Mixture of 4 parts maize meal, 2 parts pollard, 2 parts barley meal, 1 part bran and 1 part (10%) meat meal	39	1.6	3.6	1 6 8
2	Mixture of 4 parts maize meal, 2 parts pollard, 2 parts tapioca root flour, 1 part bran and 1 part (10%) meat meal ..	39	1.6	3.5	1 6 7
3	Same mixture as for lot 2 except that only ½ part (5%) meat meal was added ..	39	1.6	3.6	1 5 11

Tapioca root flour was, in every respect found to be quite satisfactory in the proportion included in the rations for lots 2 and 3, and a comparison of the results from lots 1 and 2 shows that it compared favourably with barley meal. If, therefore, tapioca root flour is obtainable at a price in the neighbourhood of that ruling for barley meal, it is a suitable food to include in pig rations, particularly since, like barley meal, it has a beneficial effect on the quality of the bacon produced. Supplies of tapioca root flour have not been available, however, for some time.

It will be seen from a comparison of the results from lots 2 and 3 in the above table that there has not been a marked reduction in the efficiency of the ration due to the proportion of the milk substitute (meat meal) being reduced to 5 per cent., and also that the lowering

of the proportion of meat meal has lowered the cost of producing live weight increase. This result should not, however, be regarded as conclusive evidence that 5 per cent. of a milk substitute is an adequate proportion throughout the entire feeding period. The results of other investigations have suggested that during the earlier stages of the fattening period, when the pigs are capable of making more rapid growth than later, the proportion of milk substitute should not be less than 10 per cent., but that during the later stages, say after the pigs are 20 weeks old, the proportion could be reduced without impairing the efficiency of the ration or the rate of thrive, and as milk substitutes are the most expensive part of the meal mixture any economies which can be made in their use will be reflected in a lowering of the costs of bacon production. Further experiments are now in progress in which the object is to ascertain if it would be more economical to reduce the proportion of milk substitute during the later stages of the fattening period than to include the full proportion throughout the entire period.

While the experiments reviewed in this article have demonstrated the efficiency of the milk substitutes used, pig feeders are again reminded that separated milk is the most satisfactory and economical source of protein in pig rations, and that if supplies are available in sufficient quantity to permit of from 2 to 3 pints per pig daily being given, the question of milk substitutes does not arise.

AUTUMN WHEAT VARIETY TRIALS.

As in previous years, autumn wheat variety trials were carried out by the Agricultural Instructors during the past season. Six varieties, including a new variety called Redman, which had not been previously included in the trials, were under test, and the average results obtained from 7 centres, at which all the varieties were included, are given in the following table. For comparison the average yields obtained from 15 centres in the years 1933 and 1934 are also given :—

Year.	Victor.		Square-head's Master.		Garton's No. 60.		Queen Wilhel-mina.		Yeoman II.		Redman.	
	Grain	Straw	Grain	Straw	Grain	Straw	Grain	Straw	Grain	Straw	Grain	Straw
	c. q.	cwt.	c. q.	cwt.	c. q.	cwt.	c. q.	cwt.	c. q.	cwt.	c. q.	cwt.
1935 (7 centres)	25 0	33	23 1	34	22 2	31	26 3	35	22 2	31	23 1	31
1934 and 1933 (15 centres)	25 2	39	24 2	39	23 1	38	29 0	44	26 0	40	–	–

It will be noted that the variety Queen Wilhelmina gave the highest average yield of grain in the three years' trials. This is one of the most prolific varieties of wheat in general cultivation, producing a

large, plump, white grain, with long straw of moderate length. It can be relied on to give high yields when grown on the better classes of soils.

Victor gave the second highest average yield in the past season's trials, but in the previous two years' tests Yeoman II gave a higher average yield than Victor.

Squarehead's Master has consistently given satisfactory yields in these trials and can be depended on to produce a satisfactory crop under a wide range of soil conditions. The new variety Redman has also given a good average yield.

THE PROGRESS OF THE MILK SCHEME.

On the 16th December next the Milk and Milk Products Act (Northern Ireland), 1934, which forms the basis of the Northern Ireland Milk Scheme, will have been in operation for a period of twelve months. It is, perhaps, too soon at this stage to attempt to estimate the extent to which it has succeeded in effecting the objects which it was intended to achieve.

The Scheme has involved a radical re-organisation of the Milk Industry in Northern Ireland, and such a re-organisation cannot be expected to be carried out in its entirety in the comparatively short period of eleven months. But perhaps it may be useful to consider what has been achieved during the short time that the Scheme has been in operation.

In the first place, producers and distributors throughout the country are now showing themselves willing to co-operate in making the Scheme a success. When the Scheme first came into operation, many producers—and especially producer retailers—felt that they were not going to reap any advantage from the Scheme, and they, therefore, withheld the licence fees or levies which were due to the Ministry, and attempted to " boycott " the Scheme. This opposition has now very largely disappeared, and the great majority of licence holders are now paying their licence fees regularly to the Ministry each month. Many of those who were originally hostile to the Scheme have come to see that their interests will be better served by endeavouring to co-operate with the Ministry and the Joint Milk Council in making it a success, than by trying to obstruct its working.

Secondly, there is evidence of a very considerable improvement in the standard of cleanliness of milk now being sold in Northern Ireland. The Ministry's sampling arrangements have not been in full working order during the whole of the past year, but even within the last few months noticeable improvement has been apparent. This has been particularly evident in the case of milk of Grade C delivered to

creameries. There can be little doubt that this improvement has been due not only to greater care in the handling of the milk, but also to the carrying out of alterations in premises and to the adoption of other suggestions made by the Ministry's Veterinary Officers and Milk Inspectors. Producers and Distributors have, with a few exceptions, shown themselves ready and willing to carry out any alterations or improvements suggested by the Ministry's Officers.

Thirdly, the Ministry believes that, except in a few areas such as those in which competition from Irish Free State supplies still persists, the Price Determinations of the Joint Milk Council are being adhered to. The great majority of producers who sell their milk to distributors have signed up contracts and these contracts are being loyally carried out by both parties. Similarly, the retail prices fixed by the Joint Milk Council are being observed generally throughout Northern Ireland.

What is the conclusion which may be drawn from these facts ? While it would no doubt be untrue to say that all outstanding difficulties have been successfully overcome, it is, nevertheless, reasonable to infer that the great majority of producers and distributors are now prepared to give their loyal support to the Scheme. To such producers and distributors the Ministry has a very obvious duty, namely, it must see to it that those who comply with the law are not prejudiced in their business by the actions of a recalcitrant minority. In other words, it is more than ever incumbent upon the Ministry to deal firmly with those who deliberately refuse to comply with the law, and it is now so much the easier for the Ministry to do this by reason of the fact that only a small minority of licence holders is concerned.

THE MILK AND MILK PRODUCTS ACT (NORTHERN IRELAND), 1934.

Election of Producers' and Distributors' Members to the Joint Milk Council.

The forthcoming election of Producers' and Distributors' members to the Joint Milk Council will be held in December next, and the Ministry has appointed the following dates as the last days for the issue and receipt of voting papers :—

Last day for issue of voting papers	..	Wednesday, 4th December, 1935.
,, receipt of voting papers	..	Tuesday, 10th December, 1935.

Notification of the last day (18th November, 1935) for the receipt of nomination papers has already been given in the Press. Candidates may withdraw their nominations up to Saturday, the 23rd November, 1935.

The voting papers will be issued by post not later than the 4th December, 1935, to every holder of a Producer's or Distributor's licence and will bear instructions regarding the manner in which they are to be completed. Voters should pay particular attention to such instructions, as otherwise the paper may not count for the purpose of the election. It should be noted that only those persons who hold licences either as Producers or Distributors will be entitled to vote in the election, and they will be entitled to vote only for those candidates nominated for the electoral area in which they are licensed.

Copies of the Regulations governing the election may be obtained through any bookseller or direct from His Majesty's Stationery Office, 80 Chichester Street, Belfast, price 3½d., post free. The following numbers should be given when ordering the Regulations :—

Election of Members by Producers, 1935—No. 119.
Do. Distributors, 1935—No. 120.

THE JOINT MILK COUNCIL FOR NORTHERN IRELAND.

Election of Members.

Notice is hereby given that elections of members of the Joint Milk Council by holders of Producers' licences and by holders of Distributors' licences respectively are about to be held and that the Ministry has appointed the 18th November, 1935, as the last day for the receipt of nominations.

The members will be elected as follows :—

1. By persons holding Producers' licences for the year ending 31st August, 1936, in respect of premises—

In the Administrative County of Antrim ..	2 members.
In the County Borough of Belfast and the Administrative County of Down ..	2 members.
In the County Borough of Londonderry and the Administrative County of Londonderry ..	1 member.
In the administrative Counties of Armagh, Fermanagh and Tyrone	2 members.

2. By the holders of Distributors' licences for the year ending 31st August, 1936 .. .. 4 members.

Nomination papers may be obtained, free of charge, on application to the Ministry of Agriculture, Stormont, Belfast. Applicants should state whether the forms required are for the purpose of the election of a Producers' or a Distributors' representative.

THE PIGS MARKETING SCHEME (NORTHERN IRELAND), 1933.

Cost of Standard Pig Ration.

The average retail cash price per cwt. of the standard ration for the sixteen weeks period 6th July to 19th October, 1935, as calculated by the Ministry, was 7/1. This price is used, together with the realised prices of bacon and hams and of fresh meat over a set period, to determine the standard price of pigs for November, 1935.

The following is the ration upon which the feeding cost is based :—

Barley Meal	30%
Maize Meal	40%
Pollards (white)	20%
Extracted Soya Bean Meal	5%
Meat and Bone Meal (60% Protein) ..	5%

DEAD PIG PRICES FOR NOVEMBER.

The Pig Industry Council for Northern Ireland have announced that the prices for dead pigs for sale by producers to curers in Northern Ireland in November are as follows :—

Graded Pig Carcases.

Weight Class.	Weights.	Thickness of Shoulder Fat in inches.			Price per cwt.		
		Grade A	Grade B	Grade C	Grade A	Grade B	Grade C
I	c.1.1.14 to c.1.2.14	1¼ -1⅞	2 -2⅛	2¼ -2½	60/2	57/2	54/2
II	c.1.2.15 to c.1.3.14	1⅜ -2	2⅛ -2¼	2⅜ -2½	60/2	57/2	54/2
III	c.1.3.15 to c.2.0.0	1½ -2⅛	2¼ -2⅜	2⅝ -2¾	57/2	54/2	51/2
IV	c.2.0.1 to c.2.0.14	1⅝ -2⅛	2¼ -2⅝	2¾ -2¾	51/2	48/2	45/2

The price for partly black pigs between c1.1.14 and c.2.0.14 is 5/– per cwt. below the relevant grade price.

Authorised cuts :—

(*a*) Broken ham (dry, shank and/or shell bone break)—5% of the gross value of the carcase.
(*b*) Broken ham (wet break)—12½% of the gross value of the carcase.
(*c*) Shoulder-stuck carcases—3/– per shoulder affected.

The gross value of a carcase is the product of the dead weight and the relevant Grade or other price per cwt.

Where a pig carcase weighing between c.1.1.14 and c.2.0.14 is diseased and the fact could not reasonably have been known to the producer at the time of slaughter the full Grade price applies where the carcase can be graded. Where such a pig carcase cannot be graded because it is wholly condemned it shall be paid for at Grade B price.

UNGRADED PIG CARCASES.

Code Mark.	Weights.	Defects.	Price per cwt. according to weight class.
UL	c.1.1.14 to c.2.0.14	Under Grade A measurements	6/- below relevant Grade B price
UF	c.1.1.14 to c.2.0.14	Over Grade C measurements	6/- below relevant Grade B price

The foregoing prices do not apply in the case of (a) wholly black pigs, boars, rigs or stags, sucked sows, and pig carcases weighing under c.1.1.14 or over c.2.0.14, and (b) pigs visibly diagnosable as diseased before slaughter and subsequently condemned; emaciated or screw pigs; smelling pigs with definite indications of putrefaction and pigs badly abused or damaged before being delivered by the producer to the curer.

AUTHORISED DEDUCTIONS :—

The total sum covering levies or contributions due to the Pigs Marketing Board (N.I.) to be deducted per pig in the case of sales of pigs by producers to curers or to the Board is 5/-.

In addition to this sum, a deduction of 6d. per pig may be made to cover insurance so that the producer will not suffer financial loss if the carcase is condemned for human consumption.

LIVE PIG PRICES FOR NOVEMBER.

The Pigs Marketing Board have announced that the following prices apply as from 1st November, 1935, until further notice :—

Live Weights. cwts. qr. lbs.				cwts. qr. lbs.			Grade I. per live cwt.	Grade II. per live cwt.	Grade III. per live cwt.	Unsuitable per live cwt.
Wiltshire.										
1	2	0	to	1	3	14	51/6	49/-	46/6	40/6
Shipping.										
1	3	15	to	2	0	0	47/6	44/9	—	40/6
2	0	1	to	2	1	14	46/-	43/3	—	40/6
2	1	15	to	2	2	7	43/6	41/-	—	38/-
2	2	8	to	2	2	21	40/-	37/6	—	34/-

The above prices are subject to a deduction of 2/6 per pig marketing expenses in addition to the levies as set out above.

These prices do not apply to live pigs outside the above weights, to live pigs intended for breeding, to live boars, live sucked sows, rigs

r stags, injured or diseased pigs, live in-pig gilts, or to live pigs old (on contracts registered with the Board) to curers in Northern reland. All live pigs to which the above prices apply can be sold nly to the Board.

Light-Weight pigs—c.1.2.0 to c.1.3.14—will be graded according to heir suitability for the Wiltshire Trade, and any of these which are ot suitable for one or other of the three grades will be purchased at he price for medium weight pigs unsuitable for shipping. viz., 40/6 er cwt.

Pigs over c.1.3.14 and up to c.2.2.21 will be graded according to heir suitability for the shipping trade

The Pigs Marketing Board also announced that the standard price for Grade II pigs of dead weight c.1.0.14 to c.1.2.7) payable for live Wiltshire pigs delivered under direct contracts during the month of November is 63/6 per dead cwt.

Grade I pigs of the above weights will be paid a bonus of 4/- per dead cwt. (67/6) and Grade III pigs will be " cut " 4/- per dead cwt. (59/6).

Grading Statistics.

Table showing the percentages of pig carcases falling within the weight and grade classes indicated during September, 1935 :—

GRADE A.				GRADE B.				GRADE C.				TOTAL.
1	2	3	4	1	2	3	4	1	2	3	4	
18.5	15.1	2.3	.4	13.1	17.3	3.8	1.2	4.8	8.4	1.4	.4	86.7

UNGRADED CARCASES.

Under Grade A. measurements. U.L.	Over Grade C. measurements. U.F.	Wholly condemned. U.	Wholly black injured or damaged. U.	Overweights underweights boars, sows. X.	Partly black. Y.	
.1	3.6	.1	1.7	7.7	.1	13.3
					TOTAL	100%

These figures have been calculated from the purchase and grading statements which the curers furnish to the Ministry. From these statements it has also been ascertained that the volume of trade during the month of September, 1935, showed a fair increase on the August return, and was, in fact, the largest since grading was introduced. During September the average weight of each carcase was 1 cwt. 2 qrs. 15lbs., or 1 lb. heavier than in August, and the average price of each pig carcase was £4 12s. 4d., as against £4 14s. 2d. for the preceding month. The average price per cwt. dead weight cheapened from £2 18s. 2d. per cwt. in August to £2 16s. 7d. in September last.

THE CATTLE INDUSTRY (EMERGENCY PROVISIONS) ACTS, 1934 AND 1935.

NUMBER, WEIGHT AND PRICES OF CATTLE CERTIFIED FOR PAYMENTS.

In the report for September, 1935, information was given regarding the cattle and carcases of cattle certified for payments under the Cattle Industry (Emergency Provisions) Acts, 1934 and 1935, during the first nine months of the Scheme. Similar information is now available for the three months June to August, 1935, and in this Article the particulars for these months are set out on similar lines to those previously published.

The classes of cattle in respect of which payments are made are steers, heifers and cow-heifers; a cow-heifer is defined as an animal which has calved and which has grown not more than six permanent incisor teeth. The standard required from September 1 to December 31, 1934, was that an animal should have an estimated killing-out percentage of not less than 52 per cent. and from January 1, 1935, a killing-out percentage of not less than 54 per cent.

The numbers of cattle certified in the United Kingdom as given in the earlier report, have been slightly revised, and the following table shows the numbers of each class of cattle certified in the three months ended August 31, 1935, together with revised figures for the first nine months and totals for the first complete year of operation of the Scheme.

	Steers No.	Heifers No.	Cow-heifers No.	Total No.
September, 1934 ..	62,104	49,534	3,792	115,430
October, 1934 ..	69,276	58,466	4,592	132,334
November, 1934 ..	58,411	50,749	4,131	113,291
TOTAL: September to November ..	189,791	158,749	12,515	361,055
December, 1934 ..	63,638	51,083	3,832	118,553
January, 1935 ..	82,094	51,862	4,953	138,909
February, 1935 ..	77,696	41,212	4,421	123,329
TOTAL: December to February ..	223,428	144,157	13,206	380,791
March, 1935 ..	86,708	39,599	4,616	130,923
April, 1935 ..	102,732	40,917	4,811	148,460
May, 1935 ..	96,633	36,823	4,655	138,111
TOTAL: March to May	286,073	117,339	14,082	417,494
June, 1935 ..	75,102	38,851	4,388	118,341
July, 1935 ..	70,703	55,602	4,934	131,239
August, 1935 ..	62,189	53,304	4,347	119,840
TOTAL: June to August	207,994	147,757	13,669	369,420
TOTAL for 12 months	907,286	568,002	53,472	1,528,760

The rate of marketing of fat cattle from month to month, as indicated by the above figures, must be judged with some reserve on account of the fact that the great majority of fat stock markets are held on the earlier days of the week. A useful comparison may, however, be drawn between the total numbers of animals certified in each of the four periods of three months, and the 1,528,760 animals marketed in the whole year were apportioned as follows :—

September to November, 1934	23.6%
December, 1934, to February, 1935	24.9%
March to May, 1935	27.3%
June to August, 1935	24.2%

Animals certified at Live-weight Certification Centres accounted in the three months June to August, 1935, for 359,958 of the total of 369,420 animals certified at both Live-weight and Dead-weight Centres, and details of the numbers of each class of animal certified at Live-weight Centres in each of the agricultural divisions into which the country is divided are given in the table on page 40.

The numbers of animals certified at Live-weight Certification Centres in England, Wales, Scotland, Northern Ireland and the United Kingdom, respectively, in each period of three months, and also in the whole of the first year's operation of the Act, together with percentages for each country, are shown in the next table.

It will be seen that while the percentage of animals certified in England and Scotland showed comparatively little variation from quarter to quarter, the percentage in Wales fell from over 7 per cent. in the autumn and winter to 4 per cent. in the spring and summer. Northern Ireland certifications were smaller in the summer than in the other three quarters of the year.

COUNTRY.	Sept.-Nov., 1934.		Dec., 1934–Feb., 1935.		March-May, 1935.		June-August 1935.		Year.	
	Number	%	Number	%	Number	%	Number	%	Number	%
England ..	233,112	66.1	234,020	62.9	262,587	64.5	243,864	67.7	973,583	65.3
Wales ..	24,750	7.0	28,415	7.6	16,998	4.2	13,865	3.9	84,028	5.6
Scotland ..	74,670	21.1	82,145	22.1	95,167	23.4	74,576	20.7	326,558	21.9
Northern Ireland	20,438	5.8	27,382	7.4	32,315	7.9	27,653	7.7	107,788	7.2
TOTAL : United Kingdom	352,970	100	371,962	100	407,067	100	359,958	100	1,491,957	100

The variations in the numbers of cattle certified in the different agricultural divisions at different seasons of the year are of interest. It will be seen from the next table that although there was relatively

little variation over England as a whole, the north-eastern division (Norfolk, Lincolnshire and the East Riding of Yorkshire), and to a lesser degree the eastern division, marketed about one-third of the year's supply in the three spring months. The east-midland division, which includes the large feeding pastures of Leicestershire and Northamptonshire, marketed about one-third of the year's total in the autumn and only about one-sixth in the spring. In Wales two-thirds of the year's supply were placed upon the markets in the autumn and winter months, while in Scotland and Northern Ireland the largest proportion came forward in the spring.

Statement showing, for each agricultural division, the percentage of the cattle certified in the division, which were marketed during each quarter of the year :—

	Sept.-Nov., 1934.	Dec., 1934-Feb., 1935.	March-May, 1935.	June-August, 1935.
	%	%	%	%
ENGLAND				
East	19.1	22.4	30.8	27.7
North East	15.3	20.4	39.0	25.3
South East	23.5	26.5	26.0	24.0
East Midland ..	32.2	23.9	17.2	26.7
est Midland ..	22.0	28.0	27.6	22.4
South West	23.7	26.8	25.0	24.5
North	25.9	23.4	25.6	25.1
North West	28.7	24.6	22.4	24.3
All England ..	23.9	24.0	27.0	25.1
WALES.				
North	30.0	35.6	19.0	15.4
South	29.0	32.4	21.2	17.4
All Wales	29.4	33.8	20.3	16.5
SCOTLAND.				
North East	22.5	26.4	30.5	20.6
East Central ..	18.4	21.5	34.1	26.0
South East	24.0	25.7	26.5	23.8
West and South West	28.4	27.4	23.0	21.2
North and North West	21.7	25.8	29.2	23.3
All Scotland	22.9	25.1	29.1	22.9
NORTHERN IRELAND	19.0	25.4	30.0	25.6

The relative numbers of fat steers and heifers sold showed comparatively little variation from month to month from September to December, 1934, when heifers accounted for between 43 and 45 per cent. of the certified cattle and steers for between 51½ to 54 per cent. By the end of February, however, the proportion of heifers had decreased to 33½ per cent. and steers had increased to 63 per cent., and the proportion of heifers continued to decline until May, after which

heifers accounted for an increased proportion of the total sales each month. By August heifers had reached their highest percentage over the whole twelve months. The proportion of cow-heifers remained steady throughout the year at between 3 and 4 per cent. The following table shows the percentages of each class of cattle certified in the three months June to August :—

	Steers. per cent.	Heifers per cent.	Cow-heifers per cent.
June, 1935	63.3	33.0	3.7
July, 1935	53.6	42.7	3.7
August, 1935	51.5	44.9	3.6

The larger proportion of the animals certified throughout the whole year in the eastern, north-eastern and east-midland divisions of England, in all parts of Scotland and in Northern Ireland, were steers. The west-midland and south-western divisions of England, marketed heifers in greater proportion in all seasons except the spring, while heifers predominated all the year round in the north-western division though to a lesser extent in the spring. In the northern division more steers than heifers were fattened in the winter and spring, and more heifers than steers in the grass season.

The number of animals certified at Dead-weight Centres in the first nine months of the Scheme was 27,341, of which 22, 955 were certified in England and Wales and 4,386 in Scotland. The numbers certified in the three months June to August were as follows :—

	England and Wales.	Scotland.	Great Britain.
	No.	No.	No.
June, 1935	2,638	303	2,941
July, 1935	2,578	455	3,033
August, 1935	2,801	687	3,488
Total for 3 months ..	8,017	1,445	9,462
Total for 12 months ..	30,972	5,831	36,803

Average Weight of Fat Cattle.—The average live weight at which fat cattle were marketed over the three months June to August was 9 cwt. 1 qr. 14 lb., and over the whole twelve months 9 cwt. 2 qr. 1 lb. In June, 1935, the average was 9 cwt. 1 qr. 14 lb., in July 9 cwt. 1 qr. 10lb., and in August 9 cwt. 1 qr. 17 lb. The following are the details of the average weights in each country :—

	Average weight over three months June to August, 1935.			Average weight over twelve months September, 1934, to August, 1935.		
	cwt.	qr.	lb.	cwt.	qr.	lb.
England and Wales ..	9	1	10	9	2	2
Scotland	9	3	14	9	3	8
Northern Ireland ..	8	1	3	8	1	23
United Kingdom	9	1	14	9	2	1

The dressed carcase weights of the animals certified at Dead-weight Centres averaged 626 lb. over the three months June to August, 1935, and 614 lb. over the whole twelve months, details being as follows :—

	Average weight over three months June to August, 1935.	Average weight over twelve months September, 1934, to August, 1935.
	lb.	lb.
England and Wales ..	626	612
Scotland	628	623
Great Britain	626	614

Average Prices of Fat Cattle.—The prices of fat cattle, which were declining in January and February, 1935, continued to fall until the end of March, then rose steadily until June, when the price reached the highest of any month since September, 1934. The average price declined slightly in July, but a sharp decrease occurred in August.

Average prices per live cwt. for the three months June to August and for the whole year were as follows :—

	England and Wales.		Scotland.		Northern Ireland.		United Kingdom.	
	s.	d.	s.	d.	s.	d.	s.	d.
June, 1935	36	7	38	11	32	4	36	10
July, 1935	35	10	40	2	31	11	36	6
August, 1935 ..	33	11	37	7	31	0	34	6
Average for three Months (June to Aug-August, 1935) ..	35	5	38	11	31	9	35	11
Average for twelve months (September, 1934 to August, 1935)	34	10	38	3	31	0	35	5

The average price per cwt. dressed carcase weight of the cattle certified on a dead-weight basis over the three months June to August, 1935, was 62s. 8d., and over the whole twelve months 61s. 11d. Average prices per cwt. dressed carcase weight were as follows :—

	s.	d.
June, 1935	62	3
July, 1935	63	9
August, 1935	62	0
Average for three months (June to August, 1935 ..	62	8
Average for twelve months (September, 1934, to August 1935)	61	11

For the reason mentioned in the previous reports (i.e., the lapse of time between the sale of a carcase and the date of receipt of the certificate by the Cattle Committee) the movements in prices of cattle certified on a dead weight basis are not reflected as quickly as the movements in the prices of live animals.

Number of Cattle Certified for Payment Under the Cattle Industry (Emergency Provisions) Acts at Live-Weight Centres in Each Month from June to August, 1935.*

Agricultural Divisions.		Steers.			Heifers.			Cow-heifers.			Total.		
		June.	July.	August.	June.	July.	August.	June.	July.	August.	June.	July.	August.
England (excluding Monmouth)	East	5,863	5,329	3,454	2,501	2,699	2,369	123	93	98	8,487	8,121	5,921
	North East	13,792	9,782	7,700	3,526	3,468	2,814	187	207	115	17,505	13,457	10,629
	South East	1,529	1,684	1,349	1,645	2,115	2,035	120	146	126	3,294	3,945	3,510
	East Midland	4,042	6,242	6,854	3,800	6,550	6,100	321	488	386	8,163	13,280	13,340
	West Midland	4,047	3,211	2,378	3,579	5,099	4,303	344	379	255	7,970	8,689	6,936
	South West	3,034	3,286	3,844	3,467	4,452	5,042	813	762	773	7,314	8,500	9,659
	North	9,773	7,570	6,273	6,248	12,214	11,111	651	799	675	16,672	20,583	18,059
	North West	3,100	2,708	2,856	4,011	7,043	7,190	895	1,036	991	8,006	10,787	11,037
	TOTAL	45,180	39,812	34,708	28,777	43,640	40,964	3,454	3,910	3,419	77,411	87,362	79,091
Wales (including Monmouth)	North	864	1,039	1,100	649	945	965	42	67	76	1,555	2,051	2,141
	South	975	1,130	980	1,318	1,622	1,659	148	139	147	2,441	2,891	2,786
	TOTAL	1,839	2,169	2,080	1,967	2,567	2,624	190	206	223	3,996	4,942	4,927
Scotland	North East	3,991	3,149	3,276	2,784	3,493	3,394	92	134	96	6,867	6,776	6,766
	East Central	7,761	7,175	5,509	986	729	590	28	29	14	8,775	7,933	6,113
	South East	4,180	4,750	3,724	344	232	130	10	16	4	4,534	4,998	3,858
	West and South West	2,667	3,701	3,688	731	1,450	1,715	209	271	247	3,607	5,422	5,650
	North and North West	727	799	622	280	430	367	15	22	15	1,022	1,251	1,004
	TOTAL	19,326	19,574	16,819	5,125	6,334	6,196	354	472	376	24,805	26,380	23,391
Northern Ireland Total		6,701	7,162	6,358	2,222	2,152	2,406	265	208	179	9,188	9,522	8,943
TOTAL UNITED KINGDOM		73,046	68,717	59,965	38,091	54,693	52,190	4,263	4,796	4,197	115,400	128,206	116,352

* Details of the monthly figures from September, 1934, to February, 1935, are given on pages 144 and 145 of the Journal for May, 1935, and from March, 1935, to May, 1935, on page 467 of the Journal for August, 1935.

According to the latest returns received from the Cattle Committee, the total payments made to Northern Ireland owners of certain classes of fat cattle, up to and including 2nd November, 1935, amounted to £267,455 1s. 3d. and were in respect of 126,668 animals. This represents an average payment of £2 2s. 3d. for each head of cattle certified.

Payments to Northern Ireland owners during the week ended 2nd November were in respect of 1,970 steers, 569 heifers and 47 cow-heifers of a total weight of 22,254 cwts. and a total realised value of £31,048 14s. The average price of each animal was £12 0s. 0d. or 27/11 per live cwt. The average weight of each animal was 8 cwt. 2 qr. 12 lbs., and the average subsidy obtained for each animal during that week was £2 3s. 0d.

IMPORTED CATTLE AND THE BEEF SUBSIDY.

The following enquiry is answered in this issue in view of its special importance :—

Question.—Do imported animals, e.g., animals from the Irish Free State rank for subsidy payments under the Beef Subsidy Scheme in the same manner as home-produced animals ?

Answer.—No. It is provided in the Cattle Industry (Emergency Provisions) Act that such animals must have been in Northern Ireland or Great Britain for a continuous period of at least three months and the Certifying Officer must satisfy himself on this point before giving his Certificate.

WARNING REGARDING EAR-MARKED CATTLE.

The Cattle Committee have decided that they will not recognise as eligible to qualify for subsidy any home-bred animal marked in the right ear in the manner described below, unless the animal has been registered with them before 30th November, 1935, and in addition the Committee are furnished with satisfactory evidence that the mark is a private ear-mark. All owners of home-bred animals (including calves) which may later be presented by them for certification, or sold by them as store cattle, should accordingly immediately examine the right ears of their animals and, if they have any with private ear-marks as described below, they should notify the Cattle Committee, 1, Sanctuary Buildings, Great Smith Street, London, S.W.1., at once. Animals so marked which have already been registered with the Cattle Committee by the present owner need not be re-registered.

As previously announced, the Cattle Committee will not recognise as eligible for subsidy any imported animal marked as described below in the right ear if the animal was imported into the United Kingdom after 31st March, 1935.

Breeders and rearers of cattle for sale as store animals should realise that, unless they register those of their animals which bear in their right ears private ear-marks as described below, they will without doubt meet with difficulty in selling such animals, as buyers will naturally refuse to purchase animals at the full market price since they will be unable to claim subsidy when the animals are subsequently sold by them as fat animals.

All owners of cattle who have made a practice of ear-marking their animals should cease forthwith to mark their animals in the right ear with punch marks or cuts of any description, as even small holes or snips may become torn before the animals are presented for certification and so prevent the animals qualifying for subsidy. Any animal privately marked in the right ear with a mark as described below after 30th November, 1935, will not in any circumstances be recognised for subsidy.

Purchasers of cattle for feeding purposes or for re-sale as store animals are warned against buying animals marked in the right ear as described below if the animals have been imported into the United Kingdom subsequent to 31st March, 1935, or, in the case of home-bred animals, if the vendor cannot guarantee that they have been registered with the Cattle Committee.

Farmers selling registered privately ear-marked cattle for further feeding, and purchasers of such cattle for further feeding, should notify the Cattle Committee immediately so that the animals may be registered in the name of the new owner.

DESCRIPTION OF MARKS IN THE RIGHT EAR.

(a) Any punch hole of any shape in any position in the ear half an inch or more across.

(b) Any snip or cut out of the edge of the ear, half an inch or more across and extending half an inch or more into the ear

WHEAT ACT, 1932.

ADVANCE PAYMENT TO REGISTERED GROWERS ON ACCOUNT OF DEFICIENCY PAYMENTS FOR 1935–36.

In accordance with Byelaw 31 of the Wheat Byelaws 1932, the Wheat Commission have given notice that they have decided to make an advance payment to all registered growers who deliver proper applications on valid wheat certificates to the Commission on or before Friday, the 1st November, 1935. This advance payment is on account of the deficiency payments that will become due under the Wheat Act for the cereal year ending 31st July, 1936. It will be made on or about

Saturday, the 30th November, 1935, and will be at the rate of 2s. 9d. per cwt., equal to 12s. 4½d. per quarter of 504 lbs. Such balance as may become due will be paid in September, 1936. Until then no further payment will be made in respect of these certificates.

The Wheat Commission hope to make advance payments on three more occasions during the current cereal year. The dates by which wheat certificates will have to be delivered to qualify for one of these payments, and the dates of the payments, will be announced in due course.

SEASONAL FARM NOTES.

The Land.

Stubble Ground.—The ploughing of stubble ground should be proceeded with, when weather and soil conditions permit. Early ploughing, since it exposes the soil to winter frosts, aids considerably in obtaining a good tilth and facilitates the preparation of the seed bed.

Wheat.—If not already done, winter wheat should be sown as soon as possible, when soil conditions are suitable : late sowing invariably results in later ripening and frequently in unsatisfactory crops being produced. A variety suitable for the type of soil should be sown. Particulars regarding the results obtained from wheat variety trials carried out by the Agricultural Instructors during the past season are given on page 27 of this report. The seed should be treated before sowing with either " Ceresan " or " Agrosan G " at the rate of from 5 to 8 ounces per cwt. of seed, as a preventive of smut and other seed-borne diseases.

Potatoes.—The advantages of planting seed from selected stocks of potatoes have been pointed out from time to time in these Notes. Freedom from diseases such as mosaic and leaf roll is the first essential in obtaining heavy yields, and farmers having stocks of potatoes which have deteriorated are strongly advised to obtain seed from selected stocks, now that supplies are plentiful and prices reasonable. The inspection of growing crops was again carried out during the past summer, and lists giving the names and addresses of growers, whose crops on inspection were found to conform to the standards as regards health and purity, have now been published. In addition, crops of potatoes, which were of a specially high standard of healthiness, have been listed separately as " Stock Seed." Further information regarding Stock Seed is given on page 21.

The boxing of seed potatoes now, which are intended for planting next year, is strongly recommended. Heavier yields and cleaner crops will be obtained if the seed at planting time is well sprouted in

boxes. The initial cost of the boxes is comparatively small, and, provided reasonable care is taken, they will remain serviceable for a number of years.

PASTURE.—The manuring of pastures ,referred to in last month's report, if not already done, should be carried out as soon as possible. Early application of manures gives better results in the following year's grazing. A dressing of high grade basic slag, Gafsa rock phosphate, or Semsol, applied at the rate of from 4 to 8 cwt. per statute acre, is suitable for this purpose and also for application to fields of young "seeds."

Where rushes are abundant and the land is not water-logged, considerable improvement can be effected by cutting the rushes close to the ground now and applying the above dressing of phosphatic manures. Following this treatment, the young rushes which subsequently grow, being more palatable, are eaten by stock, and further strong growth is checked. Another cutting next July will help to weaken the rushes still further.

DRAINAGE.—When slack periods occur, labour can be usefully employed in attending to the drainage of land at this time. Attention given now to existing drains and outfalls will do much to effect improvements in existing conditions. Ditches should be cleaned out and obstructions removed from drain outfalls. Marshy land can be greatly improved by cutting open drains in a direction diagonally across the slope. Readers are reminded that the Ministry has a loan scheme in operation under which financial assistance is given to farmers for the carrying out of approved drainage and land improvement works. Full particulars of the scheme will be sent on request.

LIVE STOCK.

CATTLE.—The problem of making up suitable and economical rations for live stock should be carefully considered now that the winter feeding period has commenced. To assist feeders in compounding suitable rations, a short article, in which examples of economical and efficient meal mixtures are outlined, is given on page 12 of this report.

In addition to feeding suitable rations, the importance of providing an adequate supply of drinking water for animals ,particularly dairy cows housed during the winter, may be emphasised. A cow requires approximately 3 gallons of water for each gallon of milk produced, and if the amount of water supplied is insufficient, the milk yield will be adversely affected. A proportion of the water requirements is provided by the roots supplied, but where water is not laid on to the stalls, the animals should be given an opportunity to drink three times daily.

Cattle are frequently affected with ringworm at this season, and unless steps are taken in time the malady may spread to other cattle on the farm. The affected animals should be separated at once from those not affected, and confined in a house which can be readily disinfected, to prevent further cases occurring. Full particulars regarding suitable dressings to apply are given in Leaflet No. 70.

The attention of cattle owners is drawn to the article on " redwater " disease which appears in this issue. This is a serious disease, and, as outbreaks have occurred more frequently lately, it is very desirable that the nature of the disease and the preventive measures that may be adopted should be known.

Sheep.—Breeding sheep will benefit considerably from a little hand-feeding from now onwards : hand-feeding, as well as maintaining the flock in good condition, aids in preventing possible losses from liver fluke. In addition to grass, a small allowance of turnips (about one per head daily) and of oats should be given. Where the grazing is of poor quality, however, it is advisable to feed a mixture of oats, bran and linseed cake at the rate of about 1 lb. per head daily.

Readers are reminded of the importance of taking precautionary measures early against outbreaks of fluke in sheep flocks. The animals should be kept off low-lying ,marshy land, and grazed on the higher, well-drained fields, while dosing with carbon tetrachloride capsules should be carried out periodically. Full particulars regarding the control of liver fluke disease are given in Leaflet No. 24.

Pigs.—Winter litters of pigs are often more difficult to rear than those farrowed during the spring and summer months. Suitable feeding, combined with good accommodation, aid in obtaining healthy litters during the winter months. Sows suckling litters should be liberally fed so that the flow of milk may be encouraged, while fresh, green food should be provided daily. It is a wise precaution to give suckling sows during the winter an ounce (about half a wineglassful) of good quality cod-liver oil in their food and to include about a teaspoonful of the oil per head in the food for the young pigs, when they start to eat. The use of cod-liver oil should be discontinued after the young pigs are weaned. Further information relating to the feeding of sows and young pigs are given on page 13 of this issue and also in Leaflet No. 45. This leaflet also deals with the treatment of anaemia or bloodlessness in young pigs, a condition which is liable to occur during the winter months.

Garden and Orchard.

Fruit Trees.—The planting of fruit trees, where not already done, may now be undertaken, but the work should be carried out only when the soil is in a suitable condition. It is better to delay planting rather than to plant when the soil is in a sodden state. Soil that is well

cultivated and in good condition, such as potato ground, should be chosen, and trees that are two or three years old (not older) should be selected for planting. The trees should be planted firmly, but not deeply, and as soon as planting has been finished they should be pruned hard back. When the ground has settled, the trees should be staked securely. Gooseberries, currants and raspberries may also be planted now. Lists and particulars of varieties of fruit trees and bushes suitable for growing in Northern Ireland are given in Leaflet No. 15.

Spraying Materials.—Materials for winter spraying of fruit trees should be ordered in good time, as tar-distillate sprays should be applied to apple trees of the varieties Grenadier, Beauty of Bath and Newton Wonder before the middle of January.

Rhubarb.—The old leaves should be removed from rhubarb crowns, and crowns intended for forcing should be lifted and left exposed for some days before being placed in the forcing quarters. The beds should be cleared of all weeds and lightly forked over and the crowns protected from frost by a mulch of strawy horse manure.

The cultivation of ground as it becomes vacant should be continued.

Poultry.

Every effort should be made to obtain maximum egg production from the laying flock at this season. The first essential to success in this direction is to ensure that the birds consume adequate food for their requirements during the short winter days. A slightly heated mash should be given once daily while the dry mash hoppers should be open to the birds at all times.

Two feeds daily of grain, a proportion of which should consist of cracked maize, should be given during the winter months. A suitable grain mixture is equal parts of cracked maize and oats. If wheat is available the mixture may consist of two parts of cracked maize, one part of wheat and one part of oats. The morning feed of grain should be scattered in the house litter, while the evening allowance may be given in a trough just before the birds go to roost and during cold weather, should consist of cracked maize only.

A constant supply of fresh clean water is essential, if a high level of egg production is to be maintained. The drinking water should be placed convenient to the dry mash hoppers and the chill taken off it during very cold weather.

A supply of green food and of oyster shell and limestone grit should also be provided. Freshly cut turnip tops, cabbage or kale are suitable sources of green food.

Further hints on the feeding of poultry along with examples of suitable mashes are given in Leaflet No. 3.

Suitable and adequate housing accommodation is also essential for maximum production. The houses should be dry, well ventilated, well lighted, free from draughts and capable of providing ample scratching accommodation for the number of birds housed. During cold wet days it is an advantage to allow the birds to remain indoors and the house should be large enough to permit of this being done.

The selection of the breeding stock, if not already done, should be completed as soon as possible and the breeding pens made up. Leaflets Nos. 2 and 29 contain useful hints in connection with this work. The importance of breeding from well-matured, vigorous birds, free from disease and deformities may again be stressed. It is a mistake to replace older hens which have proved to be good breeders and producers of fertile eggs by younger birds which are an " unknown quantity " as far as breeding abilities are concerned. Male birds which have proved themselves to be good breeders should not be discarded if it is at all possible to retain them for breeding purposes for a further season.

The breeding from pullets is not recommended as this practice invariably leads to deterioration and weakness in the progeny.

The birds in the breeding pens should now be fed so as to encourage egg production. If milk is available it is excellent for speeding up the start of laying and for keeping the birds in a fit condition. The addition of about 1 quart of good quality cod-liver oil to each cwt. of mash is also advantageous as it aids in improving fertility and hatchability. Further, the grain ration of the breeders should contain some wheat and maize.

The birds should be mated for at least ten days before eggs are required for hatching and it is a good plan to test fertility by setting a hatch under a hen prior to putting down incubator hatches.

If not already done, preparations should be made for hatching. Incubators should be examined and tested to ensure that they are in working order. All incubators should be thoroughly cleaned and disinfected at the beginning of the hatching season and again after each hatch is completed. Disinfection may be carried out by sprinkling a solution of formalin on the felts and leaving the machine closed for a day. A suitable strength of solution is an egg-cupful of formalin in a cupful of water. In addition, the incubator should be fumigated with potassium permanganate and formalin. A teaspoonful of potassium permanganate crystals is put in a tin saucer placed on the egg tray and one tablespoonful of formalin is poured over the crystals, taking care to close up the incubator immediately. Further particulars regarding the disinfection and fumigation of incubators and chicken rearing

appliances are given in Leaflet No. 59 while hints on management of incubators are given in Leaflet No. 20.

Poultry intended for the Christmas market should be fed more liberally from now onwards as indicated in last month's Notes. Mashes made up of barley meal, pollards and potatoes, wet with separated milk or buttermilk are most suitable for the production of white fleshed birds.

Turkeys intended for retention for breeding, or for sale as breeding stock, should be separated from the fattening flock and fed on more bulky and less fattening foods. As the use of suitable breeding stock is absolutely necessary for the production of turkeys of good quality, only the best birds should be selected for breeding purposes. While smaller-sized turkeys than formerly are now in best demand it is a grave mistake to retain under-sized and " weedy " birds for breeding. Such birds will inevitably produce offspring which not only would be delicate and difficult to rear but also be of poor quality. It should be remembered that quality in a turkey is of first importance in the market.

ANNOUNCEMENTS AND REMINDERS.

Copies of the leaflets mentioned in Farm Notes can be obtained free, on request.

Bulls which were calved during the first six months of this year, must be licensed by the 31st March next. Boars which were farrowed on or before the 30th September, 1935, must be licensed by the 31st January, 1936. Applications for licences for both bulls and boars should be lodged with the Ministry as soon as possible, but not later than the 31st December next. Application forms for licences for bulls and boars may be obtained from any Police Barracks, from the Secretary, County Committee of Agriculture, or from the Ministry.

Farmers wishing to keep premium bulls in 1935 should make application immediately to the Secretary, Committee of Agriculture, for the County in which the applicant resides.

Eggs for hatching may now be obtained from the County Poultry Stations. Lists of station-holders can be obtained from the Secretary of the County Committee of Agriculture free, on request.

The detailed final report of the last laying test at Stormont is now ready and copies will be sent free on request, to those applying for them.

The scheme for the supply of forest trees from the Ministry's nurseries to farmers at reduced rates is again in operation. Full particulars will be sent on request.

The next session at the Ulster Dairy School, Cookstown, and at the North-West School, Strabane, begins on the 2nd January, 1936. Further particulars regarding the courses of instruction provided at these Schools are given on page 51.

Winter Agricultural Classes have now commenced at most centres. Full particulars regarding the location of centres and the times at which the classes are held are given on page 50.

Lectures :—The following lectures have been arranged by County Committees of Agriculture :—

County.	Day and Date.	Centre.	Time.	Subject.
			p.m.	
Armagh ..	Tues., 19th Nov.	Cormeen P.E. School	7.30	Profitable Poultry-keeping
,, ..	Frid., 29th ,,	Muckery Orange Hall	7.30	Results of Recent Experiments.
,, ..	Mon., 2nd Dec.	Tanniokey P.E.S.	7.30	Livestock.
,, ..	Frid., 6th ,,	Jerretspass P.E.S.	7.30	Results of Recent Experiments.
,, ..	Mon., 9th ,,	Kilmore P.E.S.	7.30	Feeding of Farm Stock.
Down ..	Mon., 2nd Dec.	Magherally Parochial Hall	8. 0	Care and Management of Livestock.
,, ..	Frid., 6th ,,	Ballymartin School	7.30	Do. Do.
Londonderry	Mond., 9th Dec.	Gortmore P.E.S.	7. 0	Profitable Poultry-keeping
,,	Wed., 11th ,,	Glenconway P.E.S.	7. 0	Do. Do.
,,	Thurs., 12th Dec.	The Hall, Park	7. 0	Do. Do.
Tyrone ..	Frid., 22nd Nov.	Aghyaran Parochial Hall	7.30	Manuring of Grass Land.
,, ..	,, ,, ,,	Roscarey P.E.S.	7. 0	Do. Do.
,, ..	,, ,, ,,	Derryfubble P.E.S.	7. 0	Do. Do.
,, ..	,, 29th ,,	Gortin P.E.S.	7.30	Do. Do.
,, ..	,, ,, ,,	Castleroddy P.E.S.	7. 0	Do. Do.
,, ..	,, ,, ,,	Altomne Old School	7.30	Do. Do.
,, ..	Thurs., 5th Dec.	Castlemillan P.E.S.	7.30	Do. Do.
,, ..	Frid., 6th ,,	Murley P.E.S.	7. 0	Do. Do.
,, ..	,, ,, ,,	Castlecaulfield P.E.S.	7. 0	Do. Do.
,, ..	,, 13th Dec.	Dooish P.E.S.	7.30	Do. Do.
,, ..	,, ,, ,,	Crossan P.E.S.	7. 0	Do. Do.

The following talks on Agricultural Subjects will be given from the Belfast station of the British Broadcasting Corporation.

Date.	Title of Talk.	..... Speaker.
November 22nd	Pig Marketing Progress	A. N. Duckham, Esq., M.A., Secretary, Pigs Marketing Board.
December 6th	Milk Marketing Progress	D. A. E. Harkness, Esq., M.A., Ministry of Agriculture.
December 20th	The Veterinary Officer and the Farmer	J. McAllan, Esq., M.A., M.R.C.V.S., Chief Veterinary Inspector, Ministry of Agriculture.

WINTER AGRICULTURAL CLASSES.

The following arrangements for Winter Agricultural Classes during the coming winter have been made by County Committees of Agriculture :—

County.	Centre at which class is being held.	Class-room Building.	Opening date of class.	Days on which class is held each week.	Period of Class Session.
					p.m. p.m.
Antrim	Glenoe	Temperance Hall	4th Nov.	Mon. & Tues.	1.30 to 6.0
,,	Rathmore	Memorial Hall	6th ,,	Wed. & Thurs.	1.30 to 6.0
,,	Cushendun	McBride's Hall	4th ,,	Mon. & Tues.	1. 0 to 5.30
,,	Kells	Parochial Hall	6th ,,	Wed. & Thurs.	1.30 to 6.0
Armagh	Keady	Technical School	11th ,,	Mon. & Wed.	2. 0 to 6.30
,,	Crossmaglen	Technical School	12th ,,	Tues. & Thurs.	2. 0 to 6.30
Down	Kircubbin	Herron Hall	11th ,,	Mon. & Tues.	1.30 to 6. 0
,,	Dromore	Technical School	11th ,,	Mon. & Tues.	1.30 to 6. 0
,,	Boardmills	Killaney Hall	12th ,,	Wed. & Thurs.	1.30 to 6. 0
,,	Newcastle	Technical School	12th ,,	Wed. & Thurs.	1.30 to 6. 0
Fermanagh	Brookeborough	Courthouse	11th ,,	Mon. & Wed.	1.30 to 5.45
,,	Springfield	Barton's Hall	12th ,,	Tues. & Thurs.	1.30 to 5.45
Londonderry ..	Kilrea	The Town Hall	4th ,,	Mon. & Tues.	2. 0 to 6.10
,,	Blackhill (Coleraine)	The Orange Hall	7th ,,	Thurs. & Frid.	2. 0 to 6.10
Tyrone	Rouskey (Donemana)	Mrs. Smith's House	6th ,,	Mon. & Wed.	1. 0 to 5.15
,,	Bready	The Hall	7th ,,	Tues. & Thurs.	1. 0 to 5.15
,,	Cloughfin (Cookstown)	The Hall	7th ,,	Tues. & Thurs.	2. 0 to 6.15
,,	Tullyaran	The Old School	6th ,,	Mon. & Wed.	2. 0 to 6.15
,,	Dervaghroy	The Old School	6th ,,	Mon. & Wed.	2. 0 to 6.15
,,	Stralongford (Dromore)	Miss McDonald's Hall	7th ,,	Tues. & Thurs.	2. 0 to 6.15

Young men from the districts in which the classes are being held are strongly advised to make a special effort to attend so as to gain the advantages which the courses of instruction confer. The instruction is free and there is no entrance examination but as the number of pupils which can be enrolled at any class is limited, early application for enrolment is necessary.

The object of Winter Agricultural Classes is to give the pupils such information as will enable them to obtain increased returns both from their fields and from their live stock. The instruction provided is of a practical nature and capable of being applied to everyday work on the farm. The economic aspect is kept in the forefront and all the instruction has a close bearing on the farm income and expenditure, and on the prevention of unnecessary outlay on unsuitable manures, feeding stuffs, seeds, etc. ; another important feature is the arrangement of the instruction to suit farming methods and practices in the actual districts in which the classes are being held.

Amongst the best and most progressive farmers in Northern Ireland to-day are those who attended Winter Agricultural Classes in past years, and they invariably give credit for their success to the instruction received at the classes. Old class students usually have no hesitation in recommending others to attend classes. The records show that in many instances the young men who are now attending classes are the sons of those who received instruction themselves at similar classes many years ago. Surely no better testimony to the value of the instruction provided at the classes could be given !

The person who feels that he has nothing to learn is not likely to be a serious competitor for a share of the world's goods, but the one who thirsts for knowledge and applies the knowledge gained is working for his own good, the good of his district and his country's good. The Winter Agricultural Classes can claim to be assisting successfully in this connection.

There are no troublesome formalities to be complied with by those proposing to attend a class. All that is necessary is to attend on the day and at the hour arranged. The teacher will do the rest.

TRAINING OF GIRLS IN POULTRY-KEEPING, DAIRYING, &c.

The Ministry has two schools, the North West School and the Ulster Dairy School, which provide for the training of girls.

The North West School is situated at Strabane, County Tyrone, and has accommodation for 24 pupils. The courses of instruction are designed to afford a sound practical training in modern economical methods of dairying, poultry-keeping and rural housewifery. Admission is by scholarship given by the County Committees of Agriculture, which includes free tuition, board and residence. Applications for such scholarships should be made to the Secretary of the Committee of Agriculture for the county in which the applicant resides.

The Ulster Dairy School is situated at Loughry, Cookstown, County Tyrone, and has accommodation for 50 pupils. It provides the most up-to-date training in all matters connected with women's sphere in farm life, including poultry-keeping, dairying and rural housewifery. Girls who show special ability are selected for a further period of training with a view to qualifying as Instructors under the Schemes of Agricultural Education. The fees, for the ordinary school course of three terms, are only £3 : 3 : 0 per term.

Prospectuses of both Schools, containing application forms, can be obtained free from the Ministry on request.

The next Session at both schools will commence on 2nd January, 1936, and applications for admission, which are dealt with in order of receipt, should be submitted as early as possible.

LIVE STOCK BREEDING ACT (NORTHERN IRELAND), 1922.

Licensing of Bulls.

Owners of bulls which were born in January, February, March, April, May and June, 1935, are reminded that they must be in possession of licences for their animals by the 31st March, 1936, and applications for licences on the prescribed forms must reach the Ministry's offices not later than the 31st December, 1935. Farmers are advised not to delay, but to apply immediately to the Ministry for application forms and a list of centres at which bulls will be inspected for licences. Such forms and lists may also be procured at any police barracks. Every person who lodges on the prescribed form an application for a licence not later than the 31st December, 1935, will be notified by the Ministry regarding the actual place, date and hour, appointed for the inspection of his bull.

SWINE FEVER.

The pig population of Northern Ireland has increased from 219,767 in 1932 to 457,873 in 1935, and is still expanding. This increase is, of course, due to recent marketing developments and especially to the limitation of imports which followed as a natural result of current marketing policy. It is obviously of the greatest importance that this valuable and rapidly developing industry should be safeguarded against the risks of disease and in particular swine fever. The Ministry of Agriculture, having carefully considered this question, has decided, for the present at all events, to prohibit all public sales of live pigs of any description in Belfast. This means, among other things, that until further notice no pigs, whether stores, fats or breeding animals, are to be exposed in the Belfast saleyards. The arrangement will not interfere with the delivery of pigs to the Pigs Marketing Board at its authorised depots.

EGG LAYING TEST AT STORMONT, 1935/36.

The fourteenth of the series of Egg Laying Tests at the Ministry's test grounds at Stormont commenced on the 5th October, 1935. There were 152 pens, each of six pullets, accepted, and these are grouped in sections as follows :—

Section 1	..	White Wyandottes	30 pens.
,, 2	..	White Leghorns	8 ,,
,, 3	..	Rhode Island Reds	38 ,,
,, 4	..	Any other Pure Breed	14 ,,
,, 5(a)	..	Stationholders, White Wyandottes	13 ,,
,, 5 (b)	..	Stationholders, White Leghorns ..	10 ,,
,, 5 (c)	..	Stationholders, Rhode Island Reds	22 ,,
,, 6	..	Poultry Clubs and Young Farmers' Clubs, any Pure Breed	17 ,,

The first period of four weeks ended on the 1st November, 1935, and particulars of the leading pens in each section on that date are given below. In connection with these particulars, it should be noted that the basis on which the relative positions of the pens are being determined in this test is the highest number of super grade and of first grade eggs, instead of highest money value of eggs, as was the basis in former tests. Moreover, in this test the minimum weight of a first grade egg is 2 oz. from the beginning of the test period, instead of, as formerly, $1\frac{7}{8}$ oz. for the first period of four weeks, $1^{15}/_{16}$ oz. for the second period, and thereafter 2 oz.

SECTION 1.—WHITE WYANDOTTES (Open).

Position.	Name and Address of Owner.	Number of Eggs Laid.			Test Score Value.
		Super Grade.	1st Grade.	Below 1st Grade.	
1	Mrs. D. C. Gamble, Roan Lodge, Coalisland, Co. Tyrone.	41	58	17	99
2	Mr. J. Hall, Lilac Cottage, Donacloney, Co. Down.	39	56	2	95
3	Mrs. J. R. Jackson, Fortview, Coleraine, Co. Londonderry.	39	51	13	90

SECTION 2.—WHITE LEGHORNS (Open).

1	Mrs. F. R. Browne, Lakeview, Enniskillen, Co. Fermanagh.	2	49	61	51
2	Mr. W. Gunning, Inglenook, Ballywalter, Co. Down.	10	34	45	44
3	Mrs. E. D. Workman, Legamaddy House, Downpatrick, Co. Down.	8	25	33	33

SECTION 3.—RHODE ISLAND REDS (Open).

1	Langford Lodge Poultry Farm, Crumlin, Co. Antrim.	59	59	—	118
2	Mr. J. McNeill, Drains Bay, Larne, Co. Antrim.	73	32	19	105
3	Mrs. E. R. Dunwoody, Benmore, Islandmagee, Co. Antrim.	58	36	7	94

SECTION 4.—ANY OTHER PURE BREED.

1	Mrs. H. W. Merrick, Agivey House, Aghadowey, Co. Londonderry.	32	60	21	92
2	Greenmount Agricultural and Horticultural College, Muckamore, Co. Antrim.	11	60	65	71
3	Mrs. T. J. McLaren, Ballykeel, Sixmilecross, Co. Tyrone. (All Light Sussex.)	8	52	17	60

SECTION 5 (a).—WHITE WYANDOTTES (STATION-HOLDERS).

Position.	Name and Address of Owner.	Number of Eggs Laid.			Test Score Value.
		Super Grade.	1st Grade.	Below 1st Grade.	
1	Mrs. R. McCullough, Bruslee, Ballyclare, Co. Antrim.	48	50	25	98
2	Mrs. M. Rodgers, Ballyginney, Dundrum, Co. Down.	28	56	30	84
3	Mrs. J. Armstrong, Keeranbeg, Donagh, Lisnaskea, Co. Fermanagh.	23	52	27	75

SECTION 5 (b).—WHITE LEGHORNS (STATION-HOLDERS).

1	Mr. P. King, Leitrim, Banbridge, Co. Down.	34	31	11	65
2	Mrs. E. A. Paul, Divernagh, Bessbrook, Co. Armagh.	8	44	26	52
3	Mrs. J. Brown, Gorsebank, Culcrum, Co. Antrim.	15	33	30	48

SECTION 5 (c).—RHODE ISLAND REDS (STATION-HOLDERS).

1	Mrs. M. D. Bell, Woodview, Moneymore, Co. Derry.	44	50	19	94
2	Mrs. T. J. McNeary, Gorran, Blackhill, Coleraine, Co. Derry.	17	72	20	89
3	Mrs. M. McClintock, Laymore, Ballymena, Co. Antrim.	8	78	37	86

SECTION 6.—POULTRY CLUB AND YOUNG FARMERS' CLUB.

1	Ballywalter Young Farmers' Club	35	26	27	61
2	Banbridge and District Poultry Club	20	41	29	61
3	Ballywalter Young Farmers' Club	16	41	33	57

The pens occuping 1st and 2nd places in Section 3 are 1st and 2nd respectively in the entire test.

The average egg production of the 912 birds during the four weeks was 11.9 eggs per bird; a similar average in the previous test was 11.2 eggs per bird.

Four birds died during the period, one each from Section 2, 3, 5 (b) and 6.

The following table shows the average retail prices per cwt. of Feeding Stuffs at 1st November, 1935, with comparative figures for the corresponding date in 1934.

	1935.					1934.				
	Price per cwt.	Protein equivalent	Price per unit of protein equivalent	Starch equivalent	Price per unit of starch equivalent	Price per cwt.	Protein equivalent	Price per unit of protein equivalent	Starch equivalent	Price per unit of starch equivalent
STARCHY FOODS—	s. d.		s. d.		s. d.	s. d.		s. d.		s. d.
Maize (whole)	4 11	6.8	14 6	81.5	1 2	6 5	6.8	18 9	81.5	1 7
Maize Meal	5 3	6.8	15 5	81.5	1 3	6 8	6.8	19 7	81.5	1 8
Bran, Red	7 1	10.0	14 2	45.3	3 2	7 7	10.0	15 2	45.3	3 4
Bran, White	8 4	10.0	16 8	45.3	3 8	8 6	10.0	17 0	45.3	3 9
Pollard, Brown	7 2	11.0	13 0	71.2	2 0	7 3	11.0	13 2	71.2	2 0
Pollard, White	8 2	11.0	14 10	71.2	2 4	8 4	11.0	15 2	71.2	2 4
Barley Meal	7 1	6.2	22 10	69.7	2 0	8 10	6.2	28 6	69.7	2 6
Oats	5 4	7.6	14 0	60.0	1 9	5 6	7.6	14 6	60.0	1 10
Wheat (whole)	6 11	9.6	14 5	72.0	1 11	—	—	—	—	—
PROTEIN FOODS—										
Linseed Cake, home-made	10 4	25.0	8 3	71.8	2 11	10 6	25.0	8 5	71.8	2 11
Linseed Cake, foreign	9 3	25.0	7 5	71.8	2 7	9 10	25.0	7 10	71.8	2 9
Linseed Cake Meal	9 8	25.0	7 9	72.8	2 8	10 0	25.0	8 0	72.8	2 9
Cotton Cake, decorticated	9 0	35.0	5 2	71.2	2 6	8 11	35.0	5 1	71.2	2 6
Cotton Cake, undecorticated	6 4	17.0	7 5	39.2	3 3	6 11	17.0	8 2	39.2	3 6
Earth Nut Cake, decorticated	8 6	41.0	4 2	73.0	2 4	8 8	41.0	4 3	73.0	2 5
Soya Bean Meal, (extracted)	8 10	38.0	4 8	64.0	2 9	9 0	38.0	4 9	64.0	2 10
Fish Meal (60% protein)	15 10	53.0	6 0	58.9	5 5	17 0	53.0	6 5	58.9	5 9
Meat and Bone Meal (40% Protein)	9 3	36.2	5 1	44.0	4 3	9 10	36.2	5 5	44.0	3 8
Meat and Bone Meal (60% protein)	14 6	54.9	5 3	61.3	4 9	14 7	54.9	5 4	61.3	4 9
OTHER FEEDING STUFFS—										
Linseed, whole	15 0	19.0	15 10	119.2	2 6	16 2	19.0	17 0	119.2	2 9
Palm Nut Cake	7 10	17.0	9 3	70.2	2 3	7 11	17.0	9 4	70.2	2 3
Palm Nut Meal	7 11	17.0	9 4	78.0	2 0	8 0	17.0	9 5	78.0	2 0
Potatoes	2 6	0.6	83 4	18.0	2 9	2 10	0.6	94 5	18.0	3 2
Oat Straw	1 8	0.9	37 0	20.0	1 8	1 7	0.9	35 0	20.0	1 7
Meadow Hay	1 10	4.6	8 0	37.0	1 0	2 2	4.6	9 4	37.0	1 2

One of the objects of the foregoing table is to guide farmers in the economic purchase of feeding stuffs.

Ignoring their mineral content, the valuable constituents of any feeding stuff, whether home-grown or purchased, consist of :—

(1) Carbohydrates—a group of substances which include materials such as starch, sugar, etc. They supply heat or energy to the animal, and the surplus is stored by the animal as fat.

(2) Oil—which also provides heat or energy, the surplus being stored as fat. For this purpose oil is approximately 2½ times as valuable as the carbohydrates, but its presence in the ration in excessive quantities may lower the digestibility of the ration and cause digestive troubles.

(3) Protein—The group of bodies termed protein or albuminoids contain nitrogen. Protein is the only ingredient of a feeding stuff which can produce flesh or muscle and hence its special importance.

All animals require a certain amount of each of the above constituents, but the relative amounts depend upon the class of stock. Thus, for example, a two-year-old fattening bullock requires a relatively small amount of protein (flesh forming material). Its ration should consist mainly of foods rich in carbohydrates, i.e., fat producing substances. On the other hand, a dairy cow is producing milk, which is a substance rich in protein, and as the protein, that is flesh forming material in milk, can only be derived from the protein in the food, the ration for the dairy cow must contain considerably more protein than that for the fattening bullock.

There are very wide differences in the composition of feeding stuffs both home grown and purchased. Some, such as oats and maize, are rich in carbohydrates and, therefore, particularly valuable for fattening purposes, whilst others, such as decorticated cotton cake, earthnut cake and linseed cake, are rich in protein, and are chiefly valuable for their flesh and milk-producing properties.

In the following table the composition of some of the more commonly used feeding stuffs is shown :—

PERCENTAGE COMPOSITION.

	Water.	Protein.	Oil.	Carbohydrates.
Turnips (Swede)	88	1	0.2	9
Potatoes	75	2	0.1	21
Oat Straw	14	4	2	37
Meadow Hay	10	10	3	45
Pasture Grass	80	3.5	0.8	10
Cabbage	89	1.5	0.5	8
Fattening Foods—				
Oats	13	9	6	60
Maize Meal	12	10	4	70
Barley Meal	13	12	2	66
Flesh Forming Foods—				
Linseed Cake	11	30	10	35
Decorticated Cotton Cake	9	40	9	26

The farmer frequently asks what is the cheapest feeding stuff to buy. It is, however, often very difficult to give a direct answer. Much depends upon what the feeding stuff is required for, whether for fattening or milk production. Again, maize and oats are essentially fattening foods whilst decorticated cotton cake is a flesh-forming food, and it would be just as futile to use the cost per ton to compare their values as it would be to use the cost per ton to compare the values of, say, sulphate of ammonia and superphosphate.

Foods of similar composition can, however, be compared, and it is possible for the enterprising farmer to effect considerable economies, not only in the use of home grown feeding stuffs, but particularly in the purchase of concentrated feeding stuffs, by studying the market prices.

The starch equivalent figure is a measure of the energy, heat or fat producing value of the feeding stuff, and shows the number of pounds of starch which would be required to give the same heat or energy as 100 lb. of the feeding stuff. For example, the table on page 55 states that the starch equivalent of maize meal is 81½, or, in other words, 100 lb. of maize meal will provide as much heat or energy as 81½ lb. of pure starch.

The protein equivalent figure shows the number of pounds of digestible flesh or muscle producing material in 100 lb. of each of the feeding stuffs listed.

THE RANGES OF RETAIL PRICES OF PHOSPHATIC MANURES IN NORTHERN IRELAND.

	Price per ton.							
Basic Slag (40/42%)	£3	12	6	to	£4	0	0
Gafsa Rock Phosphate	£2	10	0	to	£2	16	6
Semsol	£2	17	6	to	£3	7	6
Superphosphate (35%)	£3	5	0	to	£3	12	6

Statement showing the Shipments of Live Stock from Northern Ireland Ports during the following periods, month of October, 1935, September, 1935, October, 1934, ten months ended 31st October, 1935, and 31st October, 1934.

PORTS OF :—	CATTLE.						SHEEP.				PIGS.			Horses
	Fat	Stores	Milch Cows	Springers	Calves	Total	Fat	Stores	Lambs	Total	Fat	Stores	Total	
Belfast	8,499	16,596	2,136	141	–	27,372	10,128	–	–	10,128	3,469	1	3,470	132
Larne	18	909	27	18	60	1,032	2,597	–	–	2,597	1,224	48	1,272	89
Londonderry ..	503	9,324	95	104	546	10,572	1,995	–	–	1,995	179	–	179	2
Newry	60	394	–	–	–	454	576	–	–	576	–	–	–	–
Total, October, **1935**	9,080	27,223	2,258	263	606	39,430	15,296	–	–	15,296	4,872	49	4,921	223
Total, Sept., **1935**	6,698	18,474	2,479	338	101	28,090	22,819	6	–	22,825	8,441	42	8,483	351
Total, October, 1934	3,449	26,362	2,446	333	955	33,545	7,238	2	–	7,240	9,840	149	9,989	426
Total Ten months ended 31st October, **1935**	63,704	175,715	15,566	2,923	16,129	274,037	51,451	6	92,259	143,716	69,963	2,451	72,414	4,668
Total, Ten months ended 31st October, **1934**	43,183	140,621	15,255	3,384	12,267	214,710	28,184	185	93,455	121,824	60,291	3,117	63,408	4,518

IMPORTS AND EXPORTS.

Table showing the Imports and Exports through Northern Ireland ports of certain Agricultural Products during the month ended 30th September, 1935, and the nine months ended 30th September, 1935, with comparative figures for the corresponding periods in 1934.

(These figures are supplied through the courtesy of the Ministry of Commerce and are subject to revision.)

Commodity.	IMPORTS.				EXPORTS.			
	Month ended 30th September		Nine months ended 30th Sept.		Month ended 30th September		Nine months ended 30th Sept.	
	1935	1934	1935	1934	1935	1934	1935	1934
Bacon cwt.	2,204	3,322	24,145	30,882	25,178	17,932	163,825	126,120
Hams ,,	813	898	7,386	7,008	6,990	10,905	90,711	82,395
Pork ,,	-	8	8	594	2,288	2,605	29,781	24,226
Butter ,,	7,223	6,078	105,186	114,136	617	892	4,770	4,611
Eggs gt. hds.	4,769	5,927	53,421	50,347	241,504	227,141	2,774,947	2,748,245
Oat Products (including Oatmeal) cwt.	1,320	1,519	15,469	21,042	5,417	3,411	61,411	33,506
Potatoes tons	—	—	148	265	3,502	1,652	103,698	99,599
Poultry cwt.	5	7	161	79	7,682	7,960	114,680	112,611
Grass Seeds ,,	399	400	35,114	21,507	3,836	7,178	226,251	175,827

There were no imports of oats direct through Northern Ireland ports from abroad during September or in the corresponding month of 1934.

PRICES OF FAT STOCK.

The following are the average prices per live cwt. of bullocks and heifers, sold at Belfast Auction Marts during each of the five weeks ended 29th October, 1935 :—

Week Ended.	Bullocks.			Heifers.	
	s.	d.		s.	d.
1st October ..	29	0	..	29	0
8th October ..	29	3	..	29	3
15th October ..	28	9	..	29	3
22nd October ..	28	6	..	29	0
29th October ..	28	9	..	28	9

Average Prices of Live Stock at Fairs during the month of October, 1935.

Date.	Fair.	Calves (under 9 months.)	Store Cattle.	Fat Cattle (18 months and over).	Springers.		Milch Cows	Store Sheep.		Fat Lambs (under 12 months old).	Young Pigs.
					Cows.	Heifers.		Feeding Lambs (under 12 m'ths old)	Breeding Ewes.		
		Per head	Per Cwt. Live wgt.	Per cwt. Live wgt.	Per head	Per head	Per head	Per head	Per head	Per head	Per head
		£ s.			£ s.	£ s.	£ s.	£. s.	£ s.	£ s.	£ s.
1	Omagh ..	4 0	28/– to 32/–	27/–	17 0	14 10	14 0	*0 17/6	*1 17/6	*1 7/6	– –
2	Rathfriland ..	5 0	24/– to 28/–	27/–	17 10	13 10	15 0	†0 11	*1 10	*1 5	1 13
3	Ballymoney ..	5 1	28/– to 30/9	27/6	14 0	13 0	12 0	‡1 7/6	†0 13/6	‡1 10	1 10
3	Strabane ..	4 0	26/6 to 30/–	26/–	18 0	12 0	– –	– –	*1 13	– –	– –
4	Moy ..	– –	26/– to 32/6	27/–	15 0	– –	13 0	*1 6	*2 0	– –	– –
8	Dungiven ..	– –	24/– to 29/–	26/–	17 0	15 0	– –	†0 12	†1 0	– –	1 7
8	Irvinestown ..	4 5	28/– to 31/–	28/–	16 10	13 5	15 0	– –	‡1 15	‡1 7/6	1 15
9	Crossgar ..	– –	28/– to 31/–	–	16 10	14 0	15 0	– –	*1 15	– –	1 15
10	Enniskillen ..	3 15	23/– to 28/–	28/–	16 0	12 10	14 10	– –	–	‡1 6	1 12
11	Ballygawley ..	– –	26/6 to 33/6	29/–	16 0	– –	15 0	– –	*2 2/6	– –	1 15
14	Limavady ..	– –	24/6 to 30/–	26/–	– –	13 0	– –	†0 12	–	– –	1 8
16	Lisnaskea ..	4 5	25/– to 31/–	30/–	15 0	14 10	14 0	– –	–	– –	1 12/6
17	Ballynahinch ..	– –	28/– to 30/–	–	17 10	14 10	16 0	– –	*1 12/6	*1 7	1 15
17	Londonderry ..	– –	24/– to 30/–	26/–	17 10	15 10	– –	– –	*1 15	*1 6	– –
19	Portadown ..	4 4/6	27/– to 29/–	27/6	18 0	15 0	17 0	– –	–	– –	1 13
21	Camlough ..	4 0	22/– to 28/–	26/6	14 10	14 0	13 10	†0 12/6	*1 12	*1 7/6	– –
21	Moneymore ..	3 13	21/6 to 30/–	25/–	14 5	10 5	11 0	†0 16	*2 0	– –	1 11
22	Fintona ..	3 18	28/– to 30/–	26/–	16 0	14 0	13 10	*0 15	*1 12/6	*1 7/6	1 14
23	Kilrea ..	4 1/9	25/– to 27/3	25/6	17 0	11 10	14 15	– –	*1 12/6	*1 7	1 9
25	Castlederg ..	3 12/6	25/– to 29/–	–	13 0	– –	10 0	†0 9	*1 10	*1 5	1 7/6
25	Killylea ..	– –	25/– to 33/–	26/6	15 0	– –	13 15	*1 10	*2 0	– –	– –
26	Ballymena ..	5 4/3	20/– to 32/6	–	17 5	18 0	15 0	– –	–	– –	1 10
31	Antrim ..	5 4/6	22/6 to 30/–	26/–	18 10	15 10	– –	– –	–	– –	1 8

* Downs and Cross. ‡ Long Wools † Mountain.

Table showing the number of Live Stock (1) exposed for sale and (2) sold at 21 fairs in Northern Ireland during the months of October, 1934, and September and October, 1935.

Description of Live Stock.	October, 1934.		September, 1935.		October, 1935.	
	Number exposed for sale.	Number sold.	Number exposed for sale.	Number sold.	Number exposed for sale.	Number sold.
Store Cattle ..	10,743	7,178	9,557	5,731	10,293	6,805
Fat Cattle ..	1,068	834	1,437	1,259	1,646	1,381
Dairy Cattle ..	1,679	1,396	1,780	1,413	1,774	1,357
Sheep	1,961	1,307	2,190	1,530	1,947	1,300
Lambs	1,927	1,364	3,918	2,907	2,341	1,912
Young Pigs ..	3,456	2,509	3,654	3,163	3,234	2,745

A notable feature of last month's returns of trade at fairs was the appreciable increase in the number of store cattle on offer. Fat cattle also were more numerous than at fairs held during September, while dairy cattle were practically unchanged in supply. In the cattle end generally, however, trade was, if anything, duller than of late. Stores were a slow trade and prices were easier. The best demand ruled for cattle in forward condition and heifers suitable for breeding purposes, at unchanged rates, but animals lacking quality and condition were difficult to sell, even at lower rates. There was a fair enquiry for fat cattle for local requirements, and a good proportion of the offerings were sold at easier prices. The quality of the dairy stock was mostly below the average, and trade was quieter than a month ago. Nice young springing cows and heifers remained in favour at unchanged rates, but for others prices were easier on the month. There was a seasonal reduction in the numbers of sheep and lambs during October, but supplies were well up to last year's level. Trade was of a steady nature, particularly in the case of fat lambs and breeding ewes, which sold at about September prices. Good rams for breeding also were in fair demand at late rates, but feeding lambs and aged sheep were lower values. Young pigs were in good supply, although the numbers were lower than in September. Trade was brisk throughout the month at firmer rates.

9th November, 1935.

G2935 Wt.967/430 2,500 11/35 R.H.R. Gp.5.

GOVERNMENT OF NORTHERN IRELAND.
MINISTRY OF AGRICULTURE.

List of Ministry's Leaflets and other Publications.

No. 1. Flax Seed, 1935.
" 2. Improvement of Farm Poultry.
" 3. Feeding for Egg Production.
" 4. Marketing of Eggs.
" 5. The Dishorning of Calves.
" 6. The Packing of Apples in Standard Boxes.
" 7. Potato Variety Trials.
" 8. Seed Testing for Farmers.
" 9. The Renovation of Orchards.
" 10. Fruit Tree Pests—Capsid Bugs.
" 11. Fruit Tree Pests—Aphides and Apple Sucker.
" 12. Fruit Tree Pests—Caterpillars.
" 13. Contagious Abortion in Cattle.
" 14. Cheese-making on the Farm.
" 15. Suitable Varieties of Fruit.
" 16. The Feeding of Dairy Cows.
" 17. Home Bottling of Fruits and Vegetables
" 18. Marketing of Dead Poultry.
" 19. How to Feed Linseed.
" 20. The Hatching and Rearing of Chickens.
" 21. The Uses and Advantages of Portable Poultry Houses.
" 22. Leather-Jacket Grubs.
" 23. The Handling and Care of Wool.
" 24. Fluke in Sheep.
" 25. The Rearing and Management of Young Horses.
" 26. Ordnance Survey Maps for Farmers
" 27. How to Keep Eggs Clean.
" 28. The Construction of a Laying House for Poultry.
" 29. The Selection and Breeding of Laying Hens.
" 31. Coccidiosis in Poultry.
" 32. Roup of Poultry (Fowl Pox).
" 33. Spraying Calendar for Apple Orchards.
" 34. The Pruning of Apple Trees.
" 35. The Fattening of Pigs.
" 36. Advantages of Milk Recording.
" 37. The Raising and Fattening of Turkeys.
" 38. The Destruction of Charlock.
" 39. The Production of Clean Milk.
" 40. The Laying Down and Management of Temporary Pastures.
" 41. Blackleg, Blackquarter or Quarterill.
" 42. The Purchase of Balanced Rations for Dairy Cows.
No. 43. Tuberculosis in Poultry.
" 44. Results of Crop Experiments.
" 45. The Breeding and Rearing of Pigs.
" 46. Hints for Winter Egg Production.
" 47. The Care and Management of Sheep.
" 48. Baby Beef Production.
" 49. American Gooseberry Mildew.
" 50. Potato Blight.
" 51. Butter-making on the Farm.
" 52. Gapes in Chickens.
" 54. The Breeding and Rearing of Calves.
" 55. Destruction of Ragwort or Benweed.
" 56. Identification of Egg Supplies.
" 57. How to have Eggs of First Quality.
" 58. How the Fertilisers and Feeding Stuffs Act benefits the farmer.
" 59. Bacillary White Diarrhoea.
" 60. Advantages of Winter Agricultural Classes.
" 61. The Care and Management of Breeding Bulls.
" 62. The Production of Timber on the Farm.
" 63. Sheep—Castration, Docking, Foot-Rot and Care of Feet.
" 64. The Destruction of Warble Fly Maggots in Cattle.
" 65. The Packing of Apples in Barrels.
" 66. Seed Testing Facilities for Traders.
" 67. The Cultivation of Vegetables.
" 68. The Cultivation of Strawberries
" 69. The Construction of Piggeries.
" 70. Ringworm.
" 71. The Cultivation of Raspberries.
" 72. Tree Planting for Shelter and Ornament.
" 73. The Propagation and Maintenance of Healthy Stocks of Potatoes.
" 74. New Pure Strains of Flax.
" 75. Pig Production and the Pigs Marketing Scheme.
" 76. Acarine (Isle of Wight) Disease of Bees.
" 77. Licensing of Milk Producers and Distributors.
" 78. Graded Milk.
" 79. The Picking and Storing of Apples.
" 80. Hoose or Husk in Farm Stock.
" 81. The Construction of Cow Houses.
" 82. White Scour in Calves.

Any of the above leaflets may be obtained free of charge and post free on application to the Secretary, Ministry of Agriculture, Stormont, Belfast.

CIRCULARS.

No. 1. Phosphatic Fertilisers.
" 5. Why Pay a Tax on the Horns of Cattle ?
" 8. Basic Slag.
" 9. Smut in Oats.
" 10. Purchase of Fertilisers and Feeding Stuffs.
" 11. Fertilisers and Feeding Stuffs Act—General Summary.
" 12. The treatment of Liver Fluke.
" 306. Fertilisers and Feeding Stuffs Act, 1926—Revision of Regulations.

MISCELLANEOUS PUBLICATIONS.

Store Cattle.
Reports on Egg-Laying Tests.
Crop Insurance.
List of Growers of Certified Crops of Immune Varieties of Potatoes.
List of Growers of Certified Crops of Non-Immune Varieties of Potatoes.
The Ministry's Monthly Report.
Register of Premium Stallions.
Guide to the Live Stock Breeding Act (Northern Ireland), 1922.
Guide to the Marketing of Fruit Act (Northern Ireland) 1932.

Any of the above publications may be obtained free of charge and post free on application to the Secretary, Ministry of Agriculture, Stormont, Belfast.

The following publications can be obtained from His Majesty's Stationery Office, 80 Chichester Street, Belfast, at the prices stated :—

(1) The Annual Report of the Ministry of Agriculture for Northern Ireland. Price 2/6 net.
(2) Annual Report upon the Agricultural Statistics of Northern Ireland. Price 2/- net.
(3) The Journal of the Ministry of Agriculture for Northern Ireland. Price 2/6 net.
(4) The Agricultural Output of Northern Ireland. 1925. Price 2/6 net.